IDG net

Gil Amelio unloads

Former Apple CEO pulls no punches in CW interview. 74

Certificate of authority

Netscape deal with VeriSign aims to secure online access. 6

Intranet security

Passwords and firewalls aren't enough. **Follows page 32**

COMPUTERWORLD

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THE EURO UPSIDE

▸ *Companies can get strategic benefits from euro conversions*

By Thomas Hoffman and Mitch Betts

YEAR 2000 and euro conversion. They seem like the evil twins of the millennium, costly technology projects full of heads-down, back-office code tweakery and testing.

But there's an important difference: In the end, year 2000 projects merely allow companies to stay in business, whereas converting to Europe's new currency has an economic upside. Savvy companies can exploit the euro conversion to create competitive advantage or generate new revenue.

Banking giant Deutsche Bank AG, for example, is spending $350 million to convert its systems to the euro so it can be a major player in the emerging European bond market. That could mean

Euro, page 24

JAMIE HOGAN

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Enterprise concerns

MICROSOFT COMMITS $200M TO SUPPORT, NT SERVICES

By Sharon Gaudin
SEATTLE

IS SERVICE THE KEY to the enterprise?

Microsoft Corp. is betting big that it is. Last week it announced plans to pour $200 million into various service and support programs specifically targeting corporate accounts.

With oft-delayed, code-intensive Windows NT 5.0 slogging its way through beta testing, enterprise customers say the Redmond, Wash.-based software maker will have to work hard to get NT 5.0 through their doors. Bruce Seelinger, an applications analyst for the construction products division at Caterpillar, Inc. in Clayton, N.C., said "support is critical" to this effort.

Analysts agreed. "Microsoft customers don't want to be pushed off to a [value-added reseller] as their front point of contact," said Randall Kennedy, a senior analyst at Giga Information Group in Cambridge, Mass. With NT, "We're talking 40 million lines of code. They'd be better off acknowledging that this will have bugs and squashing them as soon as they can. They need to be able to fly support people in and help their enterprise corporate accounts."

That kind of advice msy be

Microsoft, page 94

Microsoft's new president, Steve Ballmer, is charged with doing whatever is needed to "delight" customers

Business leader sees big picture in new IT role

By Craig Stedman

KEITH HANCHETT is getting what he wished for. And all be had to do to make it happen was become an IT manager.

Hanchett's wish: better business systems for his employer, New York-based Minerals Technology, Inc., a $700 million mining and processing company that now runs most of its operations on PCs.

The 44-year-old Hanchett voiced an acute need for more data while heading up new business development at the company, a job he rose to after

Leader, page 16

ERP failures exact high price

▸ *Survey: Client/server downtime can cost $5M a year*

By Patrick Dryden

BUSINESSES BUILT ON client/server software lose millions of dollars yearly from failure of key applications, according to a survey released last week. The results should be a wake-up call that managing a distributed environment is just as strategic as migrating to one, users and analysts said.

DISTRIBUTED MANAGEMENT

Outages average 2.8 hours per week for enterprise resource planning modules for finance and manufacturing, for example, from vendors such as Oracle Corp., PeopleSoft, Inc. and SAP AG. The toll on business and productivity averages $35,950 per hour for an overall average annualized loss of more than $5 million (see chart, page 16).

So said 886 information systems managers surveyed by the MERIT (Maximizing the Efficiency of Resources in Information Technology) Project. It is a consortium of users, vendors and integrators launched by Computer Associates International, Inc. to focus attention

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■ Unlike year 2000 projects, changing accounting systems to handle the new pan-European currency has an economic upside. Savvy companies see the euro conversion as a chance to boost revenue, speed electronic commerce and obtain a competitive advantage. For example, Deutsche Bank expects to reap huge fees by being a leader in the European bond market. Page 1

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■ A company's information technology portfolio is full of strategic assets that can be managed the same way top investors manage their stocks and bonds, says the co-author of a new book, *Leveraging the New Infrastructure: How Market Leaders Capitalize on Information Technology*. Page 68

■ Online travel reservation booking is great for company road warriors, but it causes headaches for corporate accountants and budgeters who want travelers to stay within corporate guidelines and stick with preferred vendors. But maybe there's a compromise: set up a company intranet for travel reservations and information. Page 4

■ Oxford Health Plans, the financially troubled health maintenance organization, has developed a business model that cuts health care costs 15%. It gets doctors to agree to fixed-price contracts for whole medical procedures, instead of paying them piecemeal. The HMO developed a $6 million information system to keep track of the operations. Page 41

■ Online grocery stores may be a niche market now, compared with online bookselling and stock trading, but experts predict the popularity will grow as consumers get more comfortable with Web-based shopping. Harried two-career families will also enjoy the convenience of home delivery and not having to drag the kids to the supermarket. Page 4

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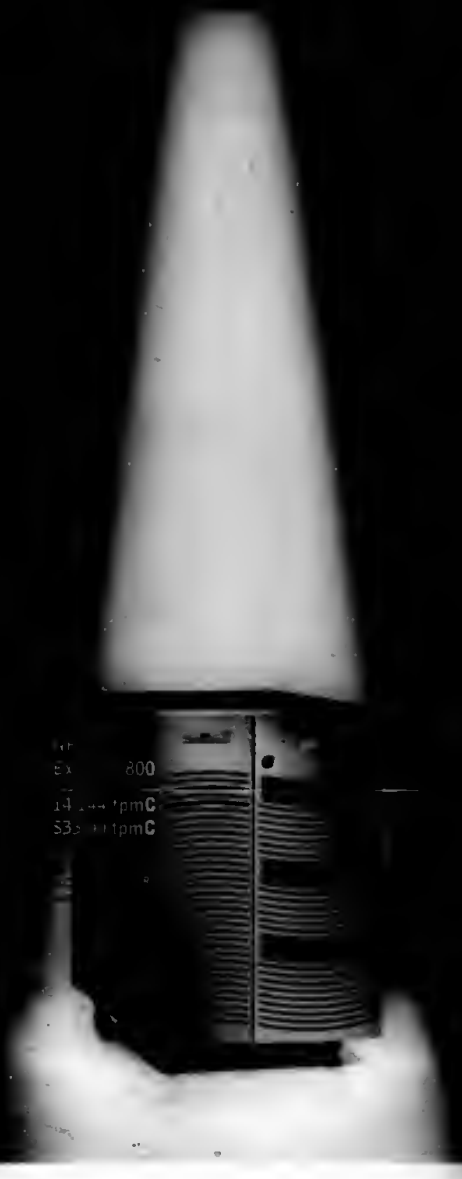

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Filling up grocery carts online

▸ *Time-pressed consumers expected to push growth*

By Sharon Machlis

CONSUMERS MAY BE ready to buy books and stocks over the Internet. But how about bananas?

Some retailers are betting that harried, two-career families will forsake picking out their own meats and produce in return for the convenience of online ordering and home delivery.

Peapod's Andrew Parkinson says the company is moving to more centralized warehouses

"You're probably saving money if you factor in the grief . . . of dealing with children in the supermarket," said Jonathan Jackson, an analyst who follows the grocery industry at EMarketer, a market analysis firm in New York. "I think it will take off in the suburbs, particularly."

For now, the market remains small compared with, say, booksellers or brokerages. But analysts predict online grocery services will grow as consumers become more comfortable on the World Wide Web.

EMarketer estimates that just 10,000 households bought groceries online last year and that 90,000 will purchase about $1 billion of groceries this year. But the market is expected to grow to 6.9 million households buying $33.6 billion by 2002. Overall grocery sales were $401.7 billion last year, according to the Food Marketing Institute in Washington.

Peapod, Inc., one of the leading Web grocers, said in mid-July that it is on the verge of taking its millionth order. The company had revenue of $59.6 million last year, with a $9.5 million loss.

Competitor NetGrocer, Inc. in New York just announced a multimillion-dollar deal with Internet powerhouse America Online, Inc. in Dulles, Va. NetGrocer offers nationwide coverage because it doesn't handle perishable produce or meats. Peapod serves about a half-dozen major metropolitan markets, representing 6% of all U.S. homes.

Several Massachusetts companies, such as Hannaford HomeRuns in Auburndale and Streamline, Inc. in Westwood, now serve one or two cities but said they plan to expand.

NICHE PLAYERS

Also, niche players are starting to generate national followings in areas such as kosher food. Kosher Grocer, Inc. in Brooklyn, N.Y., and Kosher Supermarket Inc. in Lakewood, N.J., cater to observant Jews who require special foods not easily found in areas without large Jewish communities.

Grocers need a smaller number of regular customers to generate substantial revenue than most Web sellers do, said Nicole Vanderbilt, an analyst at Jupiter Communications, Inc. in New York. The average Peapod shopper spends $100 every two weeks — more than the average book buyer.

However, volume sales can produce efficiencies that let companies lower prices.

Peapod has built its business by partnering with brick-and-mortar supermarkets and having Peapod employees fill orders by picking items from local grocers' shelves. But the company is starting to move to more centralized warehouses.

Warehouse workers who fill Peapod orders carry handheld devices that receive data from the back-end database. The company is betting that will help it lower prices, which vary by location but typically include delivery or membership charges.

While it is more expensive to deliver orders from a centralized warehouse, which is further from most customers than a local store, the warehouse lets "pickers" fulfill orders four to five times faster, said Andrew Parkinson, chairman, president and CEO of Peapod. □

Integrated applications can cut costs of online travel booking

By Stewart Deck

THE EASE OF booking tickets online is luring users outside of corporate guidelines and systems and causing headaches for accountants and budgeters. As a compromise, travel managers are trying new systems that corral those rogue users yet provide the benefits of online systems.

Benefits of doing travel reservations in-house or online

- Access at any time
- Reduces corporate air travel expenses by offering lower-fare alternatives
- Travelers can access systems for driving directions
- Reduces travel agency expenses
- Travelers can choose their own itineraries

Market researcher Jupiter Communications, Inc. predicts that online travel revenues will reach $4.7 billion by the year 2000.

WORK WITH IT

"Everybody's trying to cope with the Web and what that means for airline marketing and company-negotiated rates," said Norman Sherlock, executive director of the National Business Travel Association in Alexandria, Va. "We've been working to convince travel managers that Internet self-booking technology isn't something for them to ward off or block, but to see how they can apply it to their benefit," he said.

Attendees at next week's annual National Business Travel Association conference will hear talks about evaluating and implementing technology in travel planning, the role of smart cards in corporate travel and how to blend a company intranet with the public Internet for travel applications.

But some companies have already started investigating online travel booking.

Chevron Corp. is testing an online booking program, designed by the Internet Travel Network, that lets corporate travelers book their own reservations and set their own travel itineraries using the company intranet. It is all part of a four-year plan to put travel booking into the hands of the company's 15,000 travelers, said Jack Chu, travel systems project manager at Chevron.

"The big cost savings will come eventually when [we] can integrate everything — including back-office applications — and have little manual effort involved in the travel process itself."

The new system will let travelers book their reservations using the company intranet and includes maps, directions, corporate policies and preferred corporate vendors.

USERS LIKE IT

Zack Hicks, travel services manager at Toyota Motor Sales USA, Inc. in Torrance, Calif., said the idea of self-booking is overblown.

"In a number of corporations, you've got a whole population of general users that have problems using [Microsoft] Word, let alone sitting through a whole online travel booking process," he said.

At Toyota, Hicks helped implement an electronic travel authorization process based on Lotus Notes. "We anticipated a gain in productivity, but we got a lot more than we thought," Hicks said, with more than twice as many transactions per agent.

"The initial reaction from the travelers was that this was more red tape. And until they used it, they fought it," Hicks said. "But once they used it, they saw they got quicker responses from travel agents and always could see where the approval process was." □

Corrections

A time line chart accompanying a July 6 Review Center article ("Behind the Merced mystique") misstated terms of the sale of a Digital Equipment Corp. chip factory. Digital sold to Intel Corp. one plant where Digital's 64-bit Alpha chips were made, but there are other Alpha plants still in operation. (None is owned by Digital, now part of Compaq Computer Corp.)

Also, Digital, not Intel, was required by the Federal Trade Commission to offer the Alpha technology to rival chip makers.

An article in the July 20 issue ("SGI, Sun boost workstation power") incorrectly listed the model of a Silicon Graphics, Inc. computer offered at $10,495. It is the 225-MHz O2 workstation.

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Automakers prep for year 2000

▸ *Task force to tackle, assess supplier readiness*

By Bob Wallace

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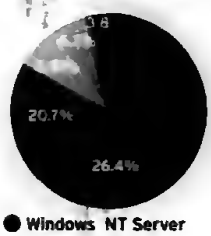

Total shipments: 3.5M

Source: International Data Corp., Framingham, Mass.

Netscape, VeriSign broaden digital certificate reach

By Carol Shwa

COMPANIES THAT want to issue digital certificates to let their trading partners, customers and employees engage in trusted business-to-business electronic commerce will find a new option this week.

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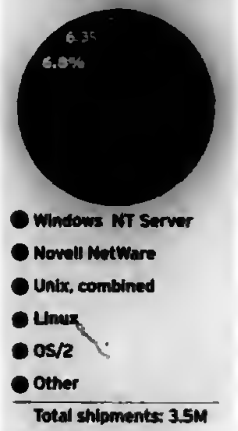

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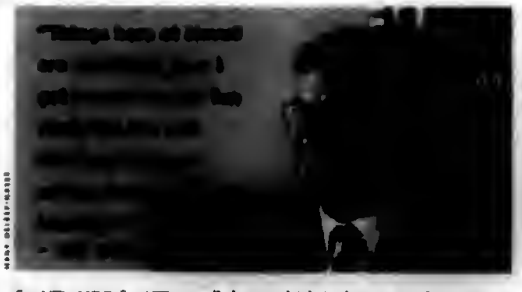
Novell chief: 'We're taking the offensive'

By Laura DiDio

Novell, Inc. Chairman and CEO Eric Schmidt wants the industry to know that Novell's comeback is last year's news. Now, with the imminent release of a new marketing strategy, NetWare 5.0, which runs natively on TCP/IP, and a native version of Novell Directory Services for NT (NDS for NT) — all due out in late summer — the Provo, Utah-based company hopes to regain some of the market share lost to rival Microsoft Corp.'s Windows NT. Schmidt talked with Computerworld senior editor Laura DiDio about his plans.



CW: NetWare's market share dropped 9% from 1996 to 1997, and new unit shipments of NT surpassed NetWare shipments for the first time. What are you going to do?

SCHMIDT: To regain momentum among our users, we needed to remove the "dissatisifiers" with the products. The maio one was NetWare didn't run native TCP/IP. NetWare 5.0, which is due out in the next two months, addresses that issue.

CW: What are you going to do to get long-term growth vs. a short-term benefit from an upgrade cycle?

SCHMIDT: Our strategy isn't based only on NetWare 5.0. It's based on the directory services-centric model of network computing, and we have a multiyear lead in this area. All the comments about NT [taking over] presume that I don't make forward progress. I'm not stopping the race. I'm going to run faster. And frankly, I'm very happy NT is going to be late; we're going to capitalize on that.

CW: How, exactly?

SCHMIDT: We're taking the offensive, doing constant road shows and advertising campaigns and conferences targeted at the CIOs.

I've been on the road almost constantly talking to CIOs, chief technology officers and network administrators about their real-world problems and what we can do to solve them. The challenge over the next year is to give CIOs a reason to believe that NetWare is the better choice.

CW: And how do you do that?

SCHMIDT: One key is ZenWorks, which we released this spring. It allows businesses to control and administer remote clients through NDS. It ensures that end users are using the right software in the right way and can lower cost of ownership by up to 70% in some organizations.

Every customer we have is evaluating or using ZeoWorks; it's the sweet spot. If I can come up with nine more products like ZeoWorks, these arguments [for NT] would become a lot more academic.

CW: One reason for NT's success is that Microsoft sold the product so well to CIOs. Have you got something new to pitch them on?

SCHMIDT: Yes, I believe that directory architectures are as important [today] as architectures were 15 years ago. I came to Novell having done Java . . . the next interesting spaces are directories and security. In an apples-to-apples comparison with NT, we have clear-cut advantages in these two areas, and according to industry analysts, we will for the next two years at least.

CW: Microsoft has stated on its Web page since January that NDS for NT isn't an interoperable product and that it breaks the security of NT 4.0.

Novell Q2 revenue, by product segment:

Total Q2 revenue: $262M

Source: Novell, Inc., Provo, Utah

SCHMIDT: Microsoft can lie, but we're going to tell the truth.

I can't control what Microsoft does, so I will continue to focus on my primary goals: getting the sales force calling on the right customers at the right level and getting the right products shipping on time based on an IP world.

And delivering huge increases in performance in NetWare and our Java engine.□

Seagate's ouster of industry veteran is heavily criticized

▸ *Co-founder of company deserved better, supporters say*

By Tom Diederich

IT'S PERHAPS NATURAL that former Seagate Technology, Inc. CEO Alan Shugart believes the firm he co-founded nearly 20 years ago owes him an explanation for his sudden ouster last week. But several industry analysts think so, too.

The man who helped build the world's first disk drive at IBM in 1956 was shown the door by the board of directors. "They didn't give me a reason," Shugart said. "The only thing I got was, 'It's time for a change, and you won't retire, so therefore, you're fired.' . . . I didn't think [retiring] was the right thing to do. I thought we were doing a real good job."

Analysts and at least one major Seagate customer were also surprised and dismayed. "I found the whole thing stunning," said Dave Vallante, an analyst at International Data Corp. in Framingham, Mass. "I was pretty disgusted, frankly, with the press release that was issued on this where [Seagate director Larry] Perlman and [President Stephen] Luczo rambled on about how great Al was, when they just fired the guy. He deserves better than that as an icon in the industry. He invented the disk drive business and also proved to be open-minded and flexible enough to adapt and lead that business for 20 years."

21-GUN SALUTE

"What should have been done was to have a black-tie dinner and a 21-gun salute, not a tacky press release," said Jim Porter, an analyst at Disk/Trend, Inc. in Mountain View, Calif. "Al's contribution to the industry is beyond calculation."

Michael Ruettgers, president and CEO of mainframe storage vendor EMC Corp. in Hopkinton, Mass. — a personal friend of Shugart — said he wouldn't take his business elsewhere but said that he "would have expected that someone who's done so much for the company would have been treated with more dignity."

"I think the guy's a treasure and perhaps the ultimate entrepreneur," added EMC Corp. Chairman Dick Egan.

Seagate's director of corporate communications, Woody Mooroy, said Shugart had approved the controversial press release. "Al had said, 'I want to make it perfectly clear that I did not resign,' " Monroy said. Shugart said he wanted it to say simply, "We fired Al," Monroy said.

Monroy said Shugart was fired because the outside directors thought the time was right to complete Luczo's long-planned transition to CEO.

Shugart said he has received a strong show of support from Seagate customers and competitors alike. "One of our competitors [IBM's Jim Vanderslice] called me to say he thought I got a raw deal, which I thought showed a lot of class.

"Then [former Walt Disney Co. President] Michael Ovitz, who got booted out of Disney, called me and later shot me a fax that said, 'Dear Al: Been there, done that, it's not too bad. Their loss. . . . Don't get mad, get even.' "

As for the future, Shugart — who was a commercial fisherman and bartender in the mid-1970s — said he won't get bored. He's writing three books, runs a charter airplane company, co-owns the Fandango restaurant in Monterey, Calif., chairs a nonprofit citizens' watchdog group and has "another half-dozen projects that I'm involved in."

Shugart said he also sits on the boards of three companies and last week received board-seat offers from three other firms. And he didn't rule out starting another company like Seagate.□

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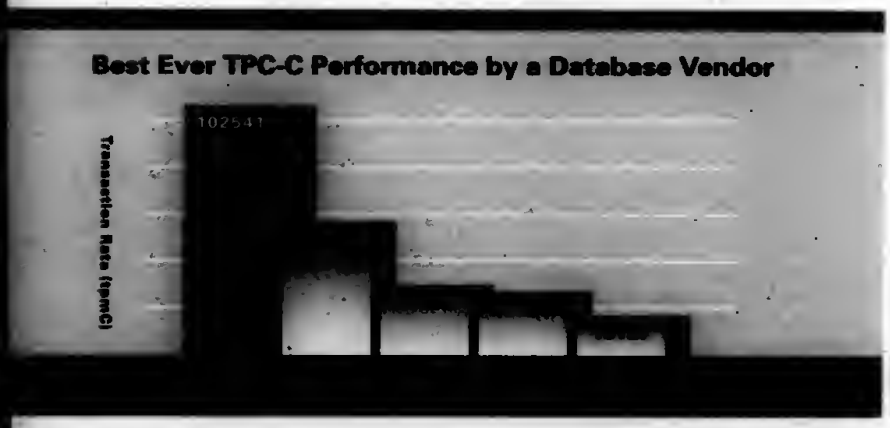

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(A) available Sept. 15, 1998, (B) available Aug. 13, 1998, (C) available Oct. 29, 1997, (D) available Aug. 29, 1997, (E) available Dec. 26, 1998

IBM users await System/390 upgrade

By Jaikumar Vijayan

AN OUTBREAK OF upgrade-itis has struck System/390 shops waiting for the performance promise of machines due next month. And IBM said it has hurt the company's bottom line.

IBM last week said a major reason for a double-digit decline in hardware revenue for its recent quarter was customers holding off buying new mainframes until its Generation 5 (G5) systems ship late next month.

"Why do I want to buy the old when I can get better performance from the new?" said Dan Kaberon, parallel sysplex project manager at Hewitt Associates, a Lincolnshire, Ill.-based human resources consulting firm.

Hewitt is waiting to upgrade four of its existing G4 machines to four G5 models in September. "The G4 does not have the headroom we need for growth. We are running five of IBM's biggest CMOS machines but still keep spilling over their limits," Kaberon said.

Overall, IBM posted profits of $1.5 billion on flat revenue of $18.8 billion. IBM reported a $1.4 billion profit for the same period last year. Hardware sales for the quarter, $7.5 billion, dipped 12.7% from last year's same quarter.

IBM announced the CMOS-based G5 in May, 11 months after the company started shipping its G4 class, which in turn was launched a mere nine months after its predecessor, the G3 [CW, May 4].

MORE MIPS

Falling hardware prices and better performance mean mainframe MIPS demand will remain strong through this year.

Mainframe MIPS demand

Q3 1997	183,000
Q3 1998	330,000*
Q4 1997	240,000
Q4 1998	440,000*

*Projected

Source: International Data Corp., Framingham, Mass.

IBM's rapid product turnaround is being driven as much by improvements in CMOS chip technology as it is by competitive pressures from Hitachi Data Systems Corp.'s Skyline systems, which until the G5 was announced offered nearly double IBM's performance. A top-end Skyline system offers 915 MIPS today, compared with the 480 MIPS on a top G4.

With G5, IBM will close that gap and give users a performance boost, said David Floyer, an analyst at International Data Corp. in Framingham, Mass.

At 113 MIPS, a uniprocessor G5 is 76% faster than the current-generation 64-MIPS G4 uniprocessor system. And a fully configured G5 system at more than 880 MIPS offers double the performance of IBM's older water-cooled systems, Floyer said.

Falling prices also make the G5 more attractive than the G4, Floyer said.

Chuck Shellhouse, director of server operations at MCI Communications Corp. in Colorado Springs, estimates that migrating to the CMOS will save MCI about $10 million in hardware, software and maintenance costs this year

A 480-MIPS water-cooled system costs between $40,000 and $50,000 per month to maintain, whereas air-cooled CMOS machines cost between $10,000 and $12,000, he said.

MCI, which uses both Hitachi Skyline and IBM systems, this month completed a six-month migration from 19 of IBM's older ECL systems to 17 of its G4 CMOS-based ones.

Now MCI is waiting to upgrade those to G5 as soon as possible because of the greater performance and scalability, Shellhouse said. □

Business-critical & worry-free computing?

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HP 3000

HP3000-L *(listserver)* and comp.sys.hp.mpe *(newsgroup)* presented these Internet messages to the world:

Date: Wed, 24 Jun 1998 14:37:47 -0400
From: <Therm_O_Link_Inc@compuserve.com>
Subject: TurboImage Error 95 — Resolved

Well, I broke down and called the HPRC about this problem. The engineer told me that error 95 usually indicated a broken chain somewhere (on a DBPUT?) and advised that we fix the chain paths using our favorite DB utility. I was a little incredulous about a broken chain stopping the DBPUT, but ran Adager and fixed all the paths in the troubled data set.

Voila! It worked! The HPRC really came through this time.

Jim Phillips

Date: Wed, 24 Jun 1998 20:57:16 +0200
From: Neil Harvey <neil@nha.co.za>
Subject: Re: TurboImage Error 95 — Resolved

Nice work, Jim.

You (and Adager) probably fixed the only broken chain that occurred in the billions of entries in TurboImage databases anywhere in the world today. No doubt someone will get one tomorrow or next week, but your turn came today.

Spare a thought for the thousands of people all over the world furiously repairing shattered Oracle, Sybase and SQL Server databases tonight — and again tomorrow, and the next day :)

Regards

Neil

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calls [illegible] drove new customers to our Web site."

Dan Bond
Data Warehouse Manager
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FRANKLY SPEAKING

Broken code

FRANK HAYES

It's over. Weak encryption is dead, murdered at the age of 21. And we even know who's responsible.

Weak encryption died on the afternoon of Wednesday, July 15, when a not-for-profit group of code-crackers succeeded in using a homebrew computer to break the standard, government-approved encryption system in 56 hours.

That's your bank transfer they just broke in to, bucko. And your credit-card transaction and your electronic purchase order.

Two weeks ago in this space, I grumbled that it's time for U.S. government agencies such as the Justice Department, the FBI and the National Security Agency (NSA) to drop their fight against letting businesses use strong encryption.

I predicted then that someone would break a message encoded with DES — the widely used Data Encryption Standard — in "a matter of days." That someone turned out to be a team of crypto-crackers from the Electronic Frontier Foundation (EFF). Those EFF crackheads spent a year and $220,000 to custom-build a machine that broke the code in less than three days.

Broke it? They obliterated it. The previous best effort to break DES took 14,000 computers linked on the Internet and grinding away for 39 days. That stunt proved the code could be broken — in theory.

The bad guys can use strong encryption. They will. You should, too.

The EFF's demonstration also was a stunt, timed to coincide with publication of a book on how weak DES encryption is by today's standards. But the EFF team's approach is clearly practical, easily within the reach of spies, crooks and even corporate espionage specialists.

How practical? For the price of a cheap corporate jet, an unscrupulous competitor can build a DES cracker that could break in to your data in one-tenth the time the EFF machine required.

It's no surprise the EFF took some heat for the demonstration. Gene Kathol, who chairs the standards committee that oversees banking standards for electronic transactions, called it "extremely irresponsible" and compared it to putting a story about how to steal a car on *60 Minutes*.

Baloney. What's irresponsible is that government and banking officials let this farce go on so long. DES has been criticized as weak since it was standardized in 1977. There are better and safer alternatives for protecting data. But DES is still the standard.

What's irresponsible is that the FBI and NSA still claim they need everyone to use weak encryption so they can catch the few bad guys dumb enough not to use something stronger. C'mon, guys — who really believes spies and drug dealers will limit themselves to the even weaker encryption the government allows for export (maximum cracking time: 12-seconds)?

The bad guys can use strong encryption. They will. You should, too.

Your IS shop is responsible for the security of your organization's data. When you send it across telephone lines or the Internet, you need to make sure it's safe.

That means guarding credit-card numbers from retail orders on your Web sites and protecting bank transfers and purchase orders and invoices sent using electronic data interchange. The risk isn't just theft — it's the leak of strategic information.

What can you do? Check the data-protection systems you use today. If they're "triple DES" or use encryption keys with 128 bits or more, your data probably is safe, at least for now. If they're standard DES, they're at risk. Push your vendors to strengthen them — or find new vendors.

Then educate your management. They need to know that the business is at risk from a pointless, wrongheaded government policy.

But don't think that safeguarding your data is someone else's responsibility. Now *that* would be irresponsible. □

Hayes is Computerworld's *staff columnist. His Internet address is frank_hayes@cw.com.*

SHORTS

FAA says it's OK for year 2000

The Federal Aviation Administration announced last week that computers that guide high-level air traffic nationwide at 20 control centers will function after the century date change. FAA teams tested the 23-year-old machines for three months and reached that conclusion, despite warnings from IBM last fall to dump the 3083 mainframes. An FAA spokesman said the machines are on track to be replaced by Jan. 1, 2000, as well as being made ready for year 2000.

Senate nixes 'net gambling . . .

The U.S. Senate last week voted 90-10 to ban Internet gambling, amid fears that "cybercasinos" are addictive and can easily lure minors to bet on games. The Internet Gambling Prohibition Act would allow state lotteries and off-track betting by closed, subscriber-based systems, as well as fee-based "fantasy" sports leagues as long as fees aren't pooled and paid out as prizes. The measure now must go to the House of Representatives.

. . . and seeks to protect minors

The U.S. Senate has approved two measures aimed at regulating "offensive" material over the Internet. One, dubbed the Communications Decency Act II, is similar to the 1996 Communications Decency Act, which was declared unconstitutional. It would institute a wide-ranging ban on materials considered "harmful" to children (the earlier bill barred "indecent" content accessible by minors). The second bill would require schools and libraries receiving federal funds for Internet connections to install filters that could block inappropriate content. Civil liberties groups said they plan to oppose both proposals, which now head to the House.

Wall Street passes Y2K test

Wall Street's first simulated test of stock trading in the year 2000 revealed no date-sensitive problems, according to officials at the Securities Industry Association. As in previous tests using dates at the end of 1999, the simulated stock trading on Jan. 3, 2000, uncovered hitches that resulted only from infrastructure and routing problems, such as modem-to-modem failures or improperly routed master files, said John Panchery, project manager.

FTC speaks on 'net privacy'

Federal Trade Commission officials last week told a congressional subcommittee that the agency favors laws to protect consumer privacy on the Internet. Officials said legislation would require all commercial World Wide Web sites that collect personal information to tell people what data is collected and how it is used, give users choices on how their information is used and allow them to view and correct data.

Win 95 or 98 – your choice

Can't decide which road to take, Route 98 or that old favorite, Windows 95? Hewlett-Packard Co. is working with Microsoft Corp. on a tool kit, dubbed the The MPK (Multi-product Kit), that will allow users to choose between the two the first time they boot up a system. HP says the dual-boot option will be available on its OmniBook notebooks later this year if all goes well.

CA warns of slower growth

In its first-quarter earnings report, Computer Associates International, Inc. last week warned that its growth will likely slow during the next few quarters, in part because users focusing on year 2000 projects and upgrades to new IBM mainframes. CA, in Islandia, N.Y., also said it expects the Asian economic crisis to affect revenue. CA's operating profits beat Wall Street projections; the company lost $481 million after paying stock bonuses.

SHORT TAKES Intel Corp. last week said it will deliver its Pentium II Xeon processor to makers of high-end servers in a week to 10 days, despite finding a bug that affects the ability of some Xeon chips to correct calculation errors. . . . **Microsoft** expects to launch *msn.com* as its new Web portal this year, combining three previous sites: *msn.com*, *msn.premier.com* and *home.microsoft.com*. . . . **Lotus Development Corp.** has posted to its Web site the first beta preview of its Notes 5.0 and Domino 5.0 groupware for beta testers and business partners; the public beta will be available next month. . . . **Inprise Corp.** in Scotts Valley, Calif., earned $1.9 million for the second quarter, compared with a loss of $2.5 million in the same period a year ago. Revenue fell to $46.5 million from $48.2 million a year earlier. . . . **Citrix Systems, Inc.** last week reported record second-quarter revenue of $56.2 million, up 129% from the same quarter the year before.

CONTRACT OF THE WEEK

Customer: State of California, Sacramento

Prime contractors: MCI Communications Corp., Washington; and Pacific Bell, San Francisco

Terms: $929 million, 10 years

Highlights: The state outsourced its voice and data network. The contract also covers Internet service. The state expects to reap millions in savings from privatization.

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Deal struck on H-1B visa bill

▸ *Foreign worker limit to rise; companies must seek U.S. hires first*

By Barb Cole-Gomolski

CONGRESSIONAL leaders have struck an agreement on legislation that will raise the number of H-1B visas issued annually to foreign workers.

But there is a catch: The resulting legislation — expected to win Senate and House approval by Aug. 7 — is likely to make it harder for companies to obtain a visa. These visas allow highly skilled foreign workers to hold U.S. jobs for an extended period and have been sought by high-tech companies to fill open information technology jobs.

Member of the House and Senate struck a deal last week on a compromise bill that will raise the cap on H-1B visas this year from 65,000 to 85,000.

THE PROPOSAL

The Senate in May passed a bill that would raise the number of H-1B visas — which are shared by several professional categories, including information systems specialists — from 65,000 to 105,000 during the next five years.

But on July 15, the White House threatened to veto any bill that didn't include "meaningful reform to the H-1B program that ensures that employers recruit U.S. workers before applying for an H-1B worker and not lay off a U.S. worker in order to hire an H-1B worker."

Such reforms were part of a House bill, sponsored by Rep. Lamar Smith (R-Texas), that never reached a vote.

Observers said the White House statement put pressure on Congress to produce a bill that includes the reforms.

ON THE RISE

The compromise bill expected to win support in the Senate and House next month raises the cap on the number of H-1B visas issued annually over the next five years.

Number of H-1B visas that will be available:

1998	85,000
1999	95,000
2000	105,000
2001	115,000
2002	115,000

The compromise bill adds 190,000 H-1B visas over the next five years, a move that was welcomed by hiring managers. However, it will require companies that are heavy users of foreign workers — those with at least 15% of their employees working on H-1B visas — to attest that they have not laid off an American worker to hire a foreigner. If caught replacing American workers with H-1B visa holders, companies will face fines and be unable to use the H-1B visa program for one year.

A REAL NIGHTMARE

Requiring companies to prove that they first tried to fill open positions with U.S. workers, "could become a real nightmare for H-1B employers," said Carl Shusterman, an immigration attorney in Los Angeles. He said the extra paperwork showing that employers tried but failed to hire domestic workers could cost companies a lot of money.

Eva Fujao, vice president of technical recruiting at systems integrator Inacom Corp. in Omaha, agreed.

"I think it's just going to create a lot of red tape," she said. "If you wanted to hire several hundred foreign workers, how would you track all that information?"

But supporters of the compromise bill said that without requiring employers to certify that they have first tried to find domestic workers, it would be too easy for firms to lay off Americans and replace them with lower-paid foreigners. □

Consultancy uses MBA program to retain talent

By Julia King

LAVERNE FRANKLIN often thought about quitting her job to earn an advanced business degree. Now she doesn't have to.

Along with 49 other PricewaterhouseCoopers consultants, Franklin, 30, is going back to school — and getting paid for it — thanks to an MBA program announced by the consultancy last week.

The MBA program is the latest in a long tradition of innovative training programs at the consulting company, which like its competitors is constantly looking for new ways to attract and retain top talent.

Developed in conjunction with the University of Georgia, the two-year program consists of classroom and computer-based instruction customized for PricewaterhouseCoopers consultants, who will spend an average of 12 to 15 hours per week on their studies.

The rest of the time, the consultant/students will continue working in their full-time jobs, which will be modified to accommodate their academic responsibilities.

"People are looking for opportunities to work and learn and not have to quit their job," said Sandy Kinsey, director of professional development at the consulting company based in New York.

Top 5 tactics for keeping consultants happy

1. Improve compensation and benefits
2. Offer training and education
3. Improve working environment and hours
4. Improve job content or offer challenges
5. Offer a change of location

Base: Survey of 200 senior consultants

PICKING UP THE TAB

PricewaterhouseCoopers will pick up all academic and travel expenses for the employees, which Kinsey estimated will total more than $50,000 per student.

In return, Franklin and the other MBA candidates have agreed to remain with the consultancy for three years. If they leave before that time, they will be required to reimburse the consultancy on a pro-rated basis.

PricewaterhouseCoopers isn't the first company to offer employees a customized advanced business degree. Merrill Lynch & Co. and PaineWebber both sponsor programs for employees in conjunction with Rutgers University in New Jersey.

EVERYBODY WINS

One of the key benefits of such programs is that students graduate with the specific skills and knowledge their companies require, said George Benson, former dean of the business school at Rutgers and now business school dean at the University of Georgia.

Michael Norris, an analyst at Kennedy Information Research Group in Fitzwilliam, N.H., agreed.

"What better way to train a workforce than to have the equivalent of their own printing press," Norris said.

Another advantage for PricewaterhouseCoopers is that "with a business degree, consultants are more valuable, which allows them to charge a higher rate," Norris said. □

Weak E-mail policy doesn't fly in Dallas

By Roberta Fusaro

DALLAS/FORT WORTH International Airport learned the hard way the consequences of having a weak corporate E-mail policy.

On July 14, the airport's information technology department responded to an employee's complaint about a sexually explicit graphic that was circulated via E-mail. That incident led to the discovery of several other offensive messages.

Eventually, the dozen or so employees involved — including a department director — were identified and counseled; none were fired.

LOOPHOLE TRAP

Bob Hendricks, the airport's acting chief information officer, said the IT group got caught in a policy loophole: Officials are supposed to notify employees and their managers before monitoring E-mail traffic — but in this case, the IT group couldn't do that because one of the managers was under investigation.

Because the investigation ran afoul of company rules, reprimands were revoked, and employees received only stern warnings.

VAGUE POLICY

Officials acknowledged that Dallas/Fort Worth International, which has 1,100 users on its Microsoft Exchange system, has a vague E-mail policy. For instance, the policy states that inappropriate E-mail use is anything that could offend the board of directors.

Because of the recent incidents, "We'll probably go back and modify the policy," which was created before E-mail use was very widespread, said Jeff Fegan, executive director at the airport.

By contrast, Chicago-based United Air Lines, Inc. requires employees to read and sign a policy that restricts E-mail use to business purposes. A policy reminder is sent at least once a year to all employees, and it is available on the company intranet.

There are now 13,000 employees on the airline's E-mail system.

"There have been instances of forwarding of chain letters, and those employees had their E-mail accounts suspended for a period of time," said Greg Barrons, a project manager at the airline.

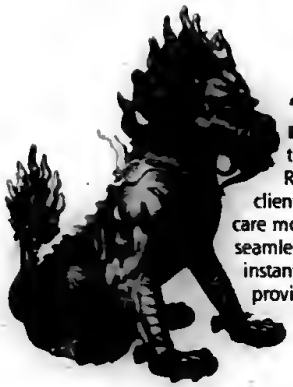
United's corporate security department also sends letters to employees' managers indicating why they have been bumped off E-mail, he said.

Gordon & Glickson's Marcelo Halpern: The best E-mail policies are clearly written and widely accessible

The best E-mail policies are clearly written, widely accessible to everyone in a company and definitive about what the E-mail system can be used for, said Marcelo Halpern, an attorney at Gordon & Glickson, a Chicago-based law firm that specializes in computer law.

Two Supreme Court rulings in sexual harassment cases earlier this month may contain a lesson for E-mail and business managers, Halpern said. The rulings suggested a company can protect itself against liability or monetary damages if it has a well-constructed policy against sexual harassment and a mechanism for enforcement. That applies to E-mail as well, Halpern said. □

It's déjà vu all over again: The new COBOL.



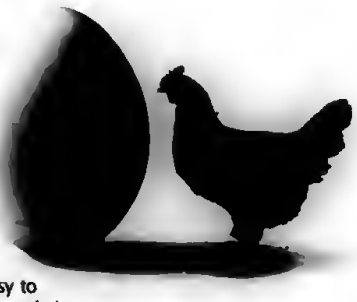
"Relational DBMS and COBOL" may sound like an oxymoron but the Tatung Company, one of the largest in the Republic of China, is using both in a hospital client/server system that delivers better patient care more efficiently. ACUCOBOL™-GT applications seamlessly send SQL queries to a Sybase DBMS and instantly retrieve patient histories, as well as providing easy access to portions of the database to accountants, purchasing agents and other employees. The prognosis is very healthy.

The real scoop on cross-platform compatibility isn't Java, it's ACUCOBOL-GT.

DIGATEX, a food industry VAR in Texas, moved 460 programs and 1,000 screen components from a Novell Network on PCs to ACUCOBOL on a new computer over a weekend for a major ice-cream company. It was the clear choice because it runs on over 600 platforms. The fact that its native COBOL screen painter, relational DBMS access and Web publishing also made ACUCOBOL a great environment for new applications was the cherry on top.

The "Next Big Thing" for Web publishing is COBOL, and in fact, our ACUCOBOL-GT plug-in. Clients just install it in their Netscape or Microsoft browser, then can run your ACUCOBOL-GT applications from a hyperlink or embedded in your page without a single line of new application code. It's an incredibly fast and efficient way to provide your employees, distributors and customers with access to order entry, inventory or other databases. Getting on the Web doesn't have to get hairy.

Which came first? Ask CSD (UK) and they'll tell you exactly when the chickens and the eggs (not to mention the kippers, frozen peas and other products in our food chain) got to or will arrive at your favorite supermarket or bistro. When it came time to update their distribution software, they switched to ACUCOBOL-GT because it provided open access to relational DBMSs from Oracle and Informix, and made it easy to create the more than 500 GUI screens their users required. And now everything is sunny-side up.



It's not your father's COBOL any more.

If you're still thinking of COBOL as the "green screen machine," wait till you see what's being done around the world with ACUCOBOL™-GT.

And if you've been thinking of enhancing your COBOL applications, you'll find you can do it best without even thinking about C/C++ or VB, and make incredible strides without changing a line of your current application code.

Want a modern GUI?

Just add it to your existing applications with our ACUCOBOL-GT WYSIWYG screen painter, using the same "widgets" you find in VB and other front-ends.

Web publishing?

It's easiest with ACUCOBOL-GT. Just add a hyperlink to your application or embed it in your page, then have your clients install our plug-in for their Netscape or Microsoft browser and you're done.

Relational DBMS access?

Utterly seamless with Acu4GL™. It executes COBOL I/O operations by invisibly generating SQL to get the answers you need, and supports identical source code across hardware platforms and RDBMSs including Oracle, Informix, Sybase and SQL Server.

Cross-platform capabilities?

We were cross-platform when Java was still a bean, and today ACUCOBOL-GT runs applications unchanged on over 600 UNIX and Windows platforms.

Which all adds up to the fact that you can enhance your users' interaction while reusing code you know is reliable because it's been running for years — your COBOL code, the ultimate reusable resource. Everyone from your maintenance staff to your CEO will love it.

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ERP failure

CONTINUED FROM PAGE 1

on common problems.

MERIT user members include Allstate Insurance Co. and J. P. Morgan & Co.

The survey results, tabulated by Arthur Andersen, calculated losses based on an outage's impact on productivity, revenue and customer retention. One-fourth of respondents reported significant lost productivity during outages of enterprise software, and nearly half said outages caused significant revenue loss or the loss of potential customers.

"The distributed environment is nowhere near as stable as the mainframe environment, so you must take every precaution to lessen the impact of outages," said Kathy White, chief information officer at Allegiance Healthcare Corp. in McGaw, Ill.

The medical supplies distributor adopted CA's Unicenter management suite as part of a $100 million overhaul of its systems, network and applications. After users started noticing disruptions before IS staff did, "we had to really beef up monitoring and messaging systems so we can correct problems quickly," White said.

That's because hospital customers depend on just-in-time delivery for scheduled surgery. Outages can mean more than lost business quantified by the survey results, she said. "We stand to lose credibility if a patient is kept waiting for a hip-replacement kit."

PASS THE AMMO

The dollar impact of the findings (posted at *www.meritproject.com*) seem low, analysts said, possibly because only one-third of the respondents have fully implemented enterprise software. Still, they said, the survey provides ammunition that could help IS managers justify a bigger budget for staff, tools and training to maintain distributed systems.

"An automobile assembly line depending on ERP software could lose millions, not thousands, per hour from an outage," said Chip Gliedman, an analyst at Giga Information Group in Cambridge, Mass.

The results of the MERIT survey validate the extra steps designers are taking to protect ERP applications at Ocean Spray Cranberries, Inc., said Tivoli user Rick Veno, data services supervisor at headquarters in Lakeville, Mass.

Each ERP function must be able to continue working by collecting data off-line and then resume interactions when a connection or server returns.

"We can let corporate systems lag up to four hours, but the shop floor must be able to push out the juice," he said.

Even though the board of directors that approved the ERP investment "hates these doom-and-gloom scenarios," he said, the numbers can help IS make a business case for a costly management project.

It is a hard-sell situation because businesses typically don't plan ahead to support these applications, even though they are critical, said Sue Aldrich, an analyst at Patricia Seybold Group in Boston.

"The strategic planners often don't warn the operations group until the last minute — at one company, just six weeks before planned rollout of SAP's R/3," Aldrich said. "They may get caught without the physical and management infrastructure in place."

So after spending millions of dollars and many months rolling out ERP applications, the company faces additional cost and effort to insure that investment with management software, said Ray Paquet, an analyst at Gartner Group, Inc. in Stamford, Conn.

"ERP is the Ferrari you crave, but it comes without a throttle and brakes," Paquet said. Before such information technology can become a competitive business weapon, the IS organization must be able to manage it properly, he said.

However, adopting an integrated management suite to support ERP applications may not be the answer, analysts said, despite the hype by vendors such as CA, Hewlett-Packard Co. and Tivoli Systems, Inc.

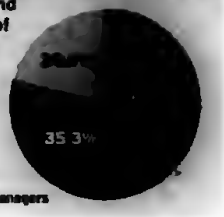
Users presume that big management frameworks will solve their ERP problems, but they are very costly and very difficult to implement, Paquet said. "If you ever succeed in getting them to work, you may spend more than you save by preventing outages."

Focused products can offer quicker payback, analysts said. Tools that specifically monitor the ERP servers, databases and modules, such as Patrol from BMC Software, Inc., can safeguard the new business software now and integrate later with a strategic management framework.

"Whether you pick point products or a platform, properly implementing this management software is just as difficult as properly implementing the ERP software," Gliedman said. □

ERP DOWNTIME COSTS

Annual estimated business and productivity losses because of enterprise resource planning application outages



- $359,000 to $1.07M
- $2.5M to $5M
- $9.3M to $10.7M

Base: MERIT Project survey of 886 IS managers

Source: MERIT Project

Sun delays UltraSPARC III

By Jaikumar Vijayan

IT LOOKS LIKE there are some clouds over Sun Microsystems, Inc.'s plans to ship its next-generation UltraSPARC III microprocessor.

The Mountain View, Calif.-based company last week confirmed that it is delaying shipment of the 64-bit chip family, but it refused to specify any reason for the delay.

UltraSPARC III, the third generation of Sun's UltraSPARC line of RISC chips, was announced last October. At that time, Sun said it expected the first UltraSPARC III chip to start shipping by this summer.

A spokesman said Sun has pushed back the original launch estimate by a few months, and it will ship sometime before the end of the year. "There really is no problem with the technology. . . . It is just that the time frames we targeted were a bit too aggressive," he said.

The delay means that users will have to wait at least until the early part or middle of next year for servers based on the new chip to become available, said James Garden, an analyst at Technology Business Research, Inc. in Hampton, N.H.

The delay isn't yet a problem for Sun customers such as Terry Cieslak, chief technology officer at May & Speh, Inc., a provider of database and management services in Downers Grove, Ill. Sun's current architecture "definitely has the headroom we need for growth," he said. □

Leader

CONTINUED FROM PAGE 1

working 20 years in manufacturing and operations. "I screamed so much about the lack of information that they decided to give me information systems," he said last week.

Hanchett swapped his business suit for the role of information technology director two years ago this month. Now he is leading Minerals Technology on an upcoming installation of Windows NT-based manufacturing, production planning and order processing software.

But his focus is more on the business impact of technology than the technology itself. "I'm spending very little time on pure IT management," he said. "The bulk of my time is within this project, and it's a business-driven project."

SEE FOR YOURSELVES

Hanchett said his strategy has been to lead the business users working on the installation "by letting them see the potential benefit for themselves rather than telling them what it is."

He first added a five-member team of business users to the IT department to help analyze Minerals Technology's operations and select the new software, which was developed by Marcam Solutions, Inc. in Newton, Mass.

Then a larger group of representatives from the business side spent nearly six months defining new business processes and learning the chosen software with only limited help from technical staffers in the IT department.

Hanchett said he looked for business users "who can see the big picture without having a lot of detail up front." And last month, he started holding town meeting sessions at Minerals Technology's plants, aiming "to generate more questions, not answer any," he said.

"I don't know whether to this day Keith could write a line of code, but he has mastered the applications as well as anyone on the business side has," said Mike Hamme, director of customer service at Minerals Technology's Specialty Minerals, Inc. division. "He's right in there with the rest of us."

And Hanchett has helped bridge the gap between IT and the company's business units while "going through great pains to drill into everyone that this is not an IT project," added Hamme, who is one of the business users working with the Marcam software.

The new applications are due to roll out beginning next month at a Specialty Minerals limestone plant in Canaan, Conn., and will be extended to other facilities later this year and next (CW, July 20).

One part of Minerals Technology that remains in a state of flux as the rollout nears is its 26-employee IT department. Hanchett revamped it to prepare for the technology transition, "but there's not a clear picture yet of what the organization will look like on the other side of the project," he said. That depends in part on how much of the support workload will be handled directly by the company's business units.

"I screamed so much about the lack of information that they decided to give me information systems"

Hanchett wants to further tighten IT's links to the business units and keep his eyes focused on business needs. "I'm not envisioning retiring as a member of the IT organization," he said. "But this is a project that encompasses everything in the company. I'm getting a pretty broad exposure to how the business runs."

That can be a useful education for business managers to have, said David Caruso, an analyst at AMR Research, Inc. in Boston.

"The more businesspeople know about the systems that surround them, the more valuable they are," Caruso said. And on corporate application projects, "you're going to get your finger on the pulse of the business across the board," he added. □

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ON A RELATED TOPIC

HOW'S YOUR SUPPLY CHAIN

Armageddon – or millennial panic?

▸ *Year 2000 experts aren't building arks, but they will be prepared*

By Kathleen Melymuka and Thomas Hoffman

YEAR 2000 isn't your father's computer glitch anymore. It's become the darling of doomsayers who are billing it as a disaster of ark-building proportions.

You don't have to be crazy to be worried. Deutsche Bank Securities analyst Edward Yardeni has upped the probability of a severe global year 2000-initiated recession to 70%. Government year 2000 czar John Koskinen countered that there's "not enough hard data yet to make estimates" of problems arising from the millennium bug.

Is it any wonder that year 2000 survivalists are buying up cabins in the north woods of Minnesota and zealots are claiming Nostradamus saw it all coming? Will the crashing of code lead to the collapse of civilization?

We asked some people who should know what they think of all the hype and what they plan to do about it.

"I've heard it all," said Rina Delmonico, chief information officer at Scott Sports Group /Schwinn Bicycling and Fitness in Boulder, Colo. "Things will blow up, the world will come to an end. God is getting back at all of us. Stuff like that."

But Delmonico said her worries are less cosmic. "If I'm worrying about anything, it's electrical outages," she said. "I may be getting a generator."

US Coast Guard Museum

Schoolkids partake in a duck-and-cover drill in the 1950s; some doomsayers are taking even more drastic measures to survive the year 2000 problem

Delmonico is confident that her systems will be OK, but she is concerned about the economic impact of year 2000. "I think we'll see a stock dip," she said. "It won't come crashing down around our knees, but I'm afraid that a few glitches could cause people to panic."

Roger Buck, year 2000 manager at Chrysler Corp. in Detroit, gets a charge out of survivalist scenarios, but he is not planning to bring in 2000 without being prepared. "There are things you can do to prepare personally, but it's a long way from survivalist camp," he said.

"I hope to be hearing the deafening silence of our success."
– Dominick Maio, California Housing Finance Agency

EARLY PREPARATION

For example, Buck is going to pay all his bills early in December so they are processed early and he won't have to pay any toward the first part of January. "If they're having problems processing payments, they won't be processing my payments," he said.

Buck said he is keeping a copy of his last 1999 bank statement and going to the ATM well before Dec. 31 in case there is a run on cash reserves. Then he won't be using the ATM again for awhile.

He will also check every bill closely in December and January and do a little hoarding of flashlights and batteries — all "just in case," he said.

Finally, he said, "If someone I care about is in the hospital, I'll be there to make sure that the equipment keeps working."

Dominick Maio worries a little about what keeps most year 2000 managers awake. "That we may have overlooked something important." But the CIO of the California Housing Finance Agency in Sacramento called that "a pretty small possibility" considering the rigor of his year 2000 program.

Maio said he thinks the same is probably true for year 2000 across the board.

"If everybody's doing his job, it'll be the biggest nonevent in history," he said. "I hope to be hearing the deafening silence of our success."

In fact, he is so confident that he plans to be nowhere near work on the big day. "Most likely, I'll be at some party that my wife wants to go to. It won't be computer-related," he said.

Year 2000 project manager Tony Del Duca at Nabisco, Inc. in East Hanover, N.J., is so confident that he is taking his family to Disney World for a big New Year celebration — even if there is a power outage. "It'll be great to see the light parade if there are no lights there," he said.

Delmonico also will be on vacation. "I'll be on a cruise out in the middle of the ocean nowhere near computers," she said. And if an errant embedded chip should scuttle the ship? "If I drown, that's OK," she said. "At least if the world's crashing around me, I won't be here." □

IBM continues with channel assembly

By April Jacobs

IBM LAST WEEK said it will begin to roll out the latest phase in its channel assembly program aimed at getting customized desktops to users more quickly.

The program essentially allows IBM computers to be built with plug-in microprocessors and memory components.

IBM will expand the program across all commercial desktops in coming months.

The Armonk, N.Y.-based company said it has begun to ship IntelliStation Workstations with components plugged in by authorized resellers participating in its Assembler Program.

Microprocessor and memory plug-in components let resellers customize desktop systems that don't have a preloaded operating system, processor, CD-ROM drives, extensive memory and other parts. □

Sprint leads service pacts charge

▸ *Offers refunds for missed benchmarks*

By Matt Hamblen

ROGER NICKIE got another sign recently that outsourcing his company's Internet Protocol (IP) network security needs two years ago to Sprint Corp. was a good move.

Sprint, in Kansas City, Mo., announced it is adding money-back guarantees to its managed firewall security services.

To Nickie, director of information technology at wireless communications firm HebCom Corp. in Albuquerque, N.M., that means he won't pay any more than his current monthly security bill of up to $3,000 for the guarantees. Performance guarantees underscore the value of outsourcing, Nickie said. "I don't have the resources in-house to do security. Why should I bother hiring two guys for $180,000 a year and have to train them, when I can get this service, with guarantees, from Sprint for $2,000 to $3,000 a month?"

Such guarantees, known as service level agreements (SLA), are the rage of the past six months as voice and data carriers seek ways to outdo one another, analysts said.

As soon as Sprint announced an SLA for network uptime earlier this year, others, including MCI Communications Corp., AT&T Corp. and GTE Internetworking, followed and then raced off to find something else to guarantee, analysts said. Those and other vendors also offer guarantees for how long it takes to access an Internet site.

"Sprint is at the forefront of SLAs, and certainly they're the first to put SLAs on a managed firewall service," said Matthew Kovar, an analyst at The Yankee Group in Boston.

The closest thing to Sprint's latest SLA comes from Carlisle, Pa.-based International Computer Security Association, which offers TruSecure, a security service characterized as hacker's insurance, Kovar said. The service is customized for each site and more expensive than Sprint's standard approach, he said.

Of Sprint's latest SLAs, Nickie said the most important issue for HebCom is that Sprint promises on-site hardware maintenance within four hours after a failure is detected.

If Sprint misses that benchmark, it refunds 10% of a monthly bill.

The maximum refund on the IP security performance guarantees is 50% of a monthly bill, Sprint officials said.

The other guarantees Sprint announced cover 100% firewall availability, except in cases such as natural disasters; up to 25 emergency change-management requests per month completed within two hours (for removing a terminated employee's access, for instance); customer notification within 30 minutes if an IP network is hacked; and detailed firewall performance reports. □

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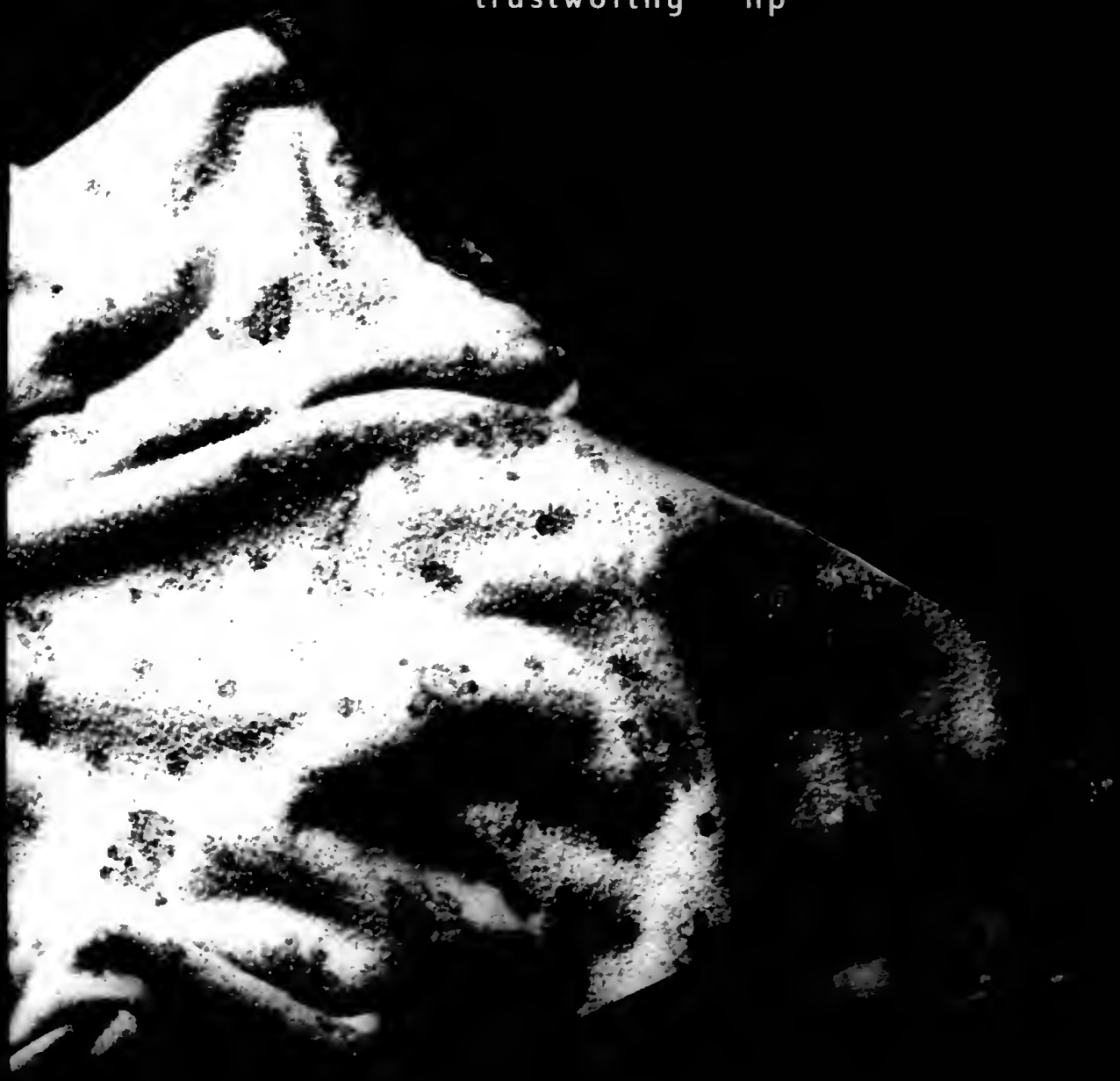

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The euro upside

CONTINUED FROM PAGE 1

billions in fees for the bank.

"Our board has made success in the euro the most important strategic issue for the bank," said Scott Moeller, director of corporate planning and development at Deutsche Bank AG London.

Some companies may adopt a very aggressive approach to euro conversion by fielding a wide array of euro-enabled products or services as quickly as possible. "Companies might elect this route to demonstrate technical sophistication [or] to gain early market share over competitors," according to a white paper by the Information Technology Association of America in Arlington, Va.

Although many businesses still view the euro project as merely fixing some technical plumbing, CEOs are taking a broader view.

An Andersen Consulting survey of CEOs at 232 medium-size to large corporations in Europe found that more than half agreed that the challenges presented by the euro are ultimately strategic in nature, covering pricing, purchasing, marketing, sales and financing.

The most obvious benefit is that companies won't have to deal with 11 different currencies and the inherent risk of currency fluctuations.

But consultants said other strategic business issues will have ripple effects on IT departments, including the following:

- Products and catalogs must be repriced. All cash registers, automated teller machines and vending machines will have to be converted to euros.
- Customers will be able to easily compare prices across borders — which is called "price transparency" — so companies must focus on differentiation and service to succeed.
- There may be a surge in merger and acquisition activity. And some large companies are expected to consolidate data centers and accounting functions now scattered across France, Germany and elsewhere into central sites.
- Call centers and help desks will be swamped, starting in January 1999, by a flood of inquiries about invoices, policies and paychecks.
- Marketing will become pan-European — a boon for telemarketing, home TV shopping and Internet shopping.

"The euro will drive business strategy changes, which will put new demands on IT [departments]," according to a report by Forrester Research, Inc. in Cambridge, Mass. In other words, IT departments will have to develop or modify systems to support euro-related business initiatives.

"CIOs need to rise above conversion details and help their companies deal with larger issues such as new price pressures and accelerated E-commerce," the Forrester report said.

The aggressive firms will try to convert to the new currency by Jan. 1, 1999, when the euro becomes viable for noncash transactions. The laggards will wait until the three-year transition period is over and only the euro remains in 2002.

Multinationals "will probably operate exclusively in euros from the beginning, for competitive and operational reasons," said Barbara Blesio, a senior analyst at International Data Corp. in London. "Banks and government institutions will also change over immediately and are geared to promoting the euro," she said.

Scott Moeller says success in the euro is Deutsche Bank's highest priority

Naturally, the sector most affected by the euro is financial services. For example, Europe's relatively small corporate bond market could grow from $160 billion to $800 billion over the next few years, according to Goldman, Sachs & Co. in New York. If Deutsche Bank grabs 10% of that market, that could mean $4 billion in fee revenue over the next decade, said James Hyde, an analyst at Merrill Lynch & Co.'s London office.

Other major euro banking players will include Credit Suisse First Boston Corp. in New York, Zurich-based Union Bank of Switzerland and, to a lesser extent, Amsterdam-based ABN Amro Bank N.V. and Dresdner Bank in Frankfurt, Hyde said.

Another company looking to capitalize on the emerging bond market is Reuters Ltd., the financial information giant based in London. In May, Reuters launched what analysts said they believe is the first European bond index, based on 325 contributors of information across all 11 euro countries.

Europe's capital markets "are likely to grow faster once the euro is launched, and we believe the bond market is likely to attract more investors outside the euro zone" once the currency is launched, said Geoffrey Sanderson, director of the euro program at Reuters.

NOT JUST FOR BANKERS

The retail sector also will be greatly affected by the euro, and not only because products must be repriced and repackaged. Today's price disparities for the same product in neighboring countries — disparities camouflaged by different currencies — will be hard to sustain when all prices are listed in euros.

The retail industry "will become more transparent" as cross-border shopping fuels competition, said Pedro Prat,

A EURO PRIMER

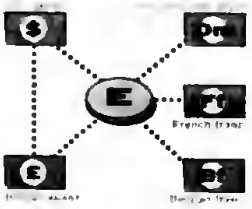
Euro defined

Europe's Economic and Monetary Union (EMU) establishes the euro as a single European currency that will replace member countries' existing currencies by July 1, 2002. The Maastricht Treaty of 1992 establishes the ground rules.

EMU member countries

Key issues for accounting software

1. The conversion rate from a national currency to the euro will be fixed and expressed in six digits. For example:
   1 euro = 1 French franc x 6.63186
   1 euro = 1 German deutsche mark x 1.97738
2. Systems must follow the official rounding rules.
3. Under EMU rules, converting from one national currency to another must be done via "triangulation," which requires an intermediate conversion to the euro. For example:



4. Some countries, such as Italy and Spain, don't use monetary fractions, so systems there must be changed to handle the euro's decimals.

System conversion approaches

Big bang: Complete conversion to the euro on a certain date, such as at the end of a calendar or fiscal year

Phased-in: Build and test converted systems on an incremental basis, while creating a "bridge" between converted and nonconverted systems

Parallel: Legacy system handles pre-euro transactions and a new system handles euro transactions

New system: Switch to an entirely new system, and migrate historic data to the new system

Euro time line

Dec. 31, 1998: "Le weekend" begins for preparing financial systems to trade in euros on Monday, Jan. 4, 1999.

Jan. 1, 1999: The euro becomes a legal, wholesale currency used in bookkeeping and noncash transactions. Conversion rates are permanently fixed.

Jan. 1, 1999 to Dec. 31, 2001: Transition period in which the euro and local currencies are used concurrently.

Jan. 1, 2002: Euro coins and bank notes go into circulation and become the only valid currency in participating countries. Mass cutover of retail activity to the euro.

June 30, 2002: Deadline for withdrawing old national coins and bank notes from circulation.

Euro Web sites

European Community *(http://europa.eu.int/euro)*

EuroInformation.com *(www.euroinformation.com)*

EU Business *(www.eubusiness.com)*

Emulet *(www.euro-emu.co.uk)*

Association for the Monetary Union of Europe *(http://amue.LF.net)*

Sources: Information Technology Association of America, Arlington, Va.; Ovum, Inc., Burlington, Mass.; EuroInformation.com (www.euroinformation.com); Association for the Monetary Union of Europe (http://amue.LF.net); Forrester Research, Inc., Cambridge, Mass.; IBM (www.europe.ibm.com)

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president and CEO of Vives Vidal, an Igualada, Spain-based division of Wyomissing, Pa.-based apparel giant VF Corp.

With the advent of price transparency, "everyone must work to become more efficient, and consequently, prices will become lower," Prat said.

To help Vives Vidal become more efficient, the information systems division at the women's intimate apparel unit is joining other functional areas such as human resources to form a shared services group. Shared services groups typically provide centralized IS, human resources and other functional services to various business units.

In addition, the group is installing Prestige Software International's Masterpiece/Net financial software to standardize its European manufacturing sites around a single accounting system to accommodate the euro, Prat said.

Other companies are approaching the euro from more of a tactical standpoint. "We've not really identified anything where we can take great leaps above the competition for competitive advantage," said Brian Spiller, director of business information systems at Avis Europe in Bracknell, England, which is spending about $5.2 million to make its systems euro-ready.

Like its competitors, Avis plans to offer its European customers the option of paying for a rental car in euros or their local currency once the three-year transition period begins next year.

But rental car prices will continue to fluctuate from one place to another because "vehicle costs, taxes and labor vary from country to country," Spiller said.

Some companies already find themselves in a defensive position. For example, executives at Toys R Us, Inc. are concerned that one of the company's biggest European competitors — Carrefour SA, a Wal-Mart-type retailer in Paris — may begin advertising some of its toys in euros next year.

"It's conceivable that beginning next year, we may need to start pricing [merchandise] in euros," said Joseph Giamelli, vice president and chief information officer at the Paramus, N.J.-based retailer. "It's not a regulatory issue, but a competitive issue." □

A boost for the Web

The emergence of a single European currency and pan-European marketing is expected to be a boon for cross-border electronic commerce in Europe, according to a report by Stamford, Conn.-based Gartner Group, Inc.

"Business managers will seek commercial advantage in this new homogeneous 'single market' by accelerating their use of [online] sales channels," the report said.

A variety of goods and services lend themselves to World Wide Web-based sales in Europe, either because they are language-neutral or because of their multicountry packaging, the report said. The most likely candidates include information technology equipment and services, financial services, clothing and fashion accessories, consumer electronics, household goods and travel services.

If at least 20% of large enterprises selling in Europe use the Internet as a sales channel, the number of cross-border business-to-business Web transactions will grow 60% to 100% by 2001, according to the Gartner report.

The same assumptions would generate 25% to 50% growth in the business-to-consumer markets, the report concluded.

— Thomas Hoffman and Mitch Betts

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Q&A

Peter Yorke, senior Web technologist at Seattle-based aircraft manufacturer, The Boeing Co., talks about the company's use of streaming video. More than 160,000 employees worldwide use the tool via the company's intranet.

How are you using streaming technology at Boeing?

We've been doing streaming technology for about the last two years for marketing, communication and training purposes.

What are the pitfalls you have to plan for when deploying streaming technology?

For us, there were a lot of folks with legitimate concerns. We spent a lot of time playing their concerns. For example: What it was going to do to the network, what kind of additional infrastructure was the organization going to require and even some environmental things to make sure that people had headphones vs. speakers.

How have users adapted to the technology? Are they happy with the quality of streamed video, or are some turned off by it?

Most folks are willing to live with a lower image quality and frame rate just to have this information on their desktops. I think we've looking at an evolutionary process. We know that it's [illegible] going to be as perfect as [illegible] but I think we are committed to embracing the technology and knowing that it will improve over time.

If you offer video-on-demand, you run the risk of overloading your network if a lot of users begin streaming simultaneously. Was that an issue?

It was a consideration when we first started. But we found it's extremely unlikely, just given the nature of people being in different time zones, with different learning styles, different time management practices. . . . We have governors in place that will not [let us] exceed a number of concurrent users.

What is the business value of this technology?

First and foremost, consistency of message. I think prior to [streaming], you would hear something on-high, and it was filtered down to your vice president, to your director. And by the time it got to your first-line supervisor and you, the message sort of had spin control and people's own perceptions of what the message means.

This technology short-circuits that entire process. You see the person you want the genuineness of the speaker.

Streaming technology

DEFINITION: Streaming technology, also known as streaming media, lets a user view and hear digitized content – video, sound and animation – as it is being downloaded. Streamed sound and images usually appear via a World Wide Web browser plug-in within seconds of a user's click. But the price of that convenience is quality. The compression technologies used to transport the bandwidth-intensive content over the Internet can produce less-than-satisfactory images, particularly when used at 28.8K bit/sec. transmission rates.

Masses won't soon stream to PCs to watch TV

By Patrick Thibodeau

STREAMING MEDIA makes it possible for a PC to function like a television. But don't expect the same image quality.

A streamed image — especially one viewed at slower modem speeds over the Internet — is far from television-like.

The compressed image received by a 28.8K bit/sec. modem, for instance, typically arrives at a jerky four to five frames per second vs. television's 30 frames per second. And the credit-card-size image that appears on the PC is no fun to look at (see screen shot).

AT ISSUE
Low quality, but has potential

"I'm excited about the potential of the technology, but right now video is pretty brutal," says David Card, an analyst at Jupiter Communications, Inc. in New York.

It's a different picture on corporate networks. Wider networks allow larger streams with subsequent improvement in quality.

But the improvements in clarity and sound of images sent over a corporate network can be offset by bandwidth requirements. Streaming media needs a lot of bandwidth.

For example, if 100 users are watching full-screen video at a 300K bit/sec. stream rate, or about 10 to 12 frames per second, they are using a total of 30M bytes of bandwidth.

A large company could easily swamp its networks if thousands of users sign on to hear a CEO's pep talk. "You can't risk everybody getting on," says Joan-Carol Brigham, an analyst at International Data Corp. in Framingham, Mass. "You've got to control [use of the network], or you will end up losing control."

Despite that issue, analysts say a strong business case can be made for using streaming sound and images, especially for training.

"If you're talking about training videos [for] a highly dispersed sales force . . . then, yes, it's absolutely worth the trouble," says Seema Williams, an analyst at Forrester Research, Inc. in Cambridge, Mass. "It means you're trading off bandwidth for an airplane ticket to some training facility."

Video files and sound files can come in a variety of formats, and the trend among vendors is to support as many formats as possible.

Leading streaming technology vendors include Real Networks, Inc. in Seattle, which set a de facto standard on audio streaming with its RealAudio and also makes RealVideo. Microsoft Corp.'s NetShow streaming technology also is widely used, and Microsoft has a stake in Real Networks. Apple Computer, Inc.'s QuickTime is a front-runner, too. □

Streaming video appears small on a screen. This example, showing Robert Redford in *The Horse Whisperer*, is from *www.movies.com*.

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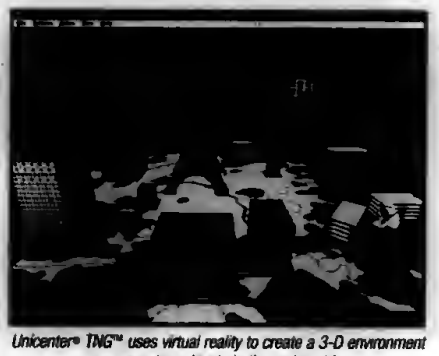

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	# Of Developers	Develop Time (mos.)	Person Mos.	With TNG Framework
2-D and 3-D User Interface	5	8	40	Available Now
Object Repository	5	12	60	Available Now
Auto Discovery	6	6	36	Available Now
Calendar Management	8	5	40	Available Now
Event Detection	3	7	21	Available Now
Reporting	4	6	24	Available Now
[illegible]	6	7	42	Available Now
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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*For more information about Windows NT Server and Year 2000 see www.microsoft.com/ntserver/y2k.

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Get one step closer to the next millennium.

Get a great file/print server.

Get an outstanding application server.

Get them unified on one platform.

Get up to 20% off and a free Services for NetWare CD-ROM.

Ironic, isn't it? That an inconvenience of Y2K's* immensity might actually do your network some good after all. But consider it this way: since there's no getting away from that major network upgrade, maybe there's something you can get out of it. For instance, here's what happens when you upgrade to Microsoft® Windows NT® Server 4.0:

Windows NT Server 4.0 delivers proven file/print performance. Using the industry-standard Netbench performance tool, Windows NT Server 4.0 outperforms Novell NetWare 4.11 by nearly 17% in file/print throughput tests.

Windows NT Server 4.0 unifies file/print and applications on one platform. It's the ideal choice for supporting key business applications, including groupware like Microsoft Exchange Server. There are already over 4,000 applications for Windows NT Server available today. And, of course, running your applications and file/print on a common platform simplifies the management of your network—giving you more time to focus on achieving your long-term goals.

Windows NT Server 4.0 is the easy way to prepare for the future. It's already the leading intranet platform—in fact, according to IntelliQuest, it's the platform that 56% of corporate Web applications are being built on. And with features like remote access services, virtual private networking and out-of-the-box integration with Microsoft Proxy Server, you can enable cost-effective, secure communication across the Internet among employees, customers and partners. It's an exceptional Web server too—according to NetCraft, more than half a million Internet sites are currently running on Windows NT Server.

Windows NT Server 4.0 reduces total cost of ownership. A recent study by the Business Research Group compared it to NetWare in a mixed environment, and revealed that, as a unified platform, Windows NT Server 4.0 lowers the costs of providing file/print sharing and application support by nearly 20%.

And if you upgrade now you'll save up to 20% off the estimated retail price.[1] You'll also qualify for a free Services for NetWare CD-ROM (ERP $149) that makes it easier for you to transition your NetWare-based network to Windows NT Server 4.0.

So the question is not: How can I minimize the inconvenience of having to upgrade my file/print? The question is: How can I maximize the benefit of doing so? It seems that Y2K is about more than just surviving the turn of the millennium. Windows NT Server proves that it's equally about making the most of what's left of the 1900s, and getting the 2000s off to a flying start.

Upgrade to Windows NT Server 4.0 and save up to 20%.[1]

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OPINION

Multimedia fantasy . . .

With all the countless dollars and brain cells that have been invested in making the Web a broadcast medium, it would seem natural that we'd expect to see some return on investment by now.

So why is it that the big media companies — the ones that do broadcast best — are busy investing their money in the prosaic "portal" services? Or that of the 20 most-visited Web sites listed by hot100.com, all but two make their living on text-based news, search or chat. I don't see ABC quaking in its boots over this.

Nor should it. Because interactive, multimedia Web entertainment (with the exception, perhaps, of pornography) isn't going to take off for many years. The reason has nothing to do with technology or demand but everything to do with economics and demographics. People who want to watch *The X-Files* or listen to Spice Girls on the Internet aren't the people Web sites need to attract to build a viable business.

For Web sites to generate much revenue, they must attract upwardly mobile, high-income professionals who'll pay money to subscribe to information services or respond to the upscale ads that dominate the Web. The most precious possession most of those people have is time. It's no wonder, then, that they are flocking to online travel agencies, news services, stock traders and book stores. Those sites may be gray and text-heavy, but they are fast, timely and very effective at saving time.

But wait: Fast, cheap bandwidth will be the spark that sets multimedia afire, right? Don't bet on it. My office network has plenty of bandwidth, and I don't see anyone spending much time with videoconferences or Webcasts. I'm sure there are people who will want to download CD tracks or watch concerts on the Internet. Such as kids, perhaps. But take s lesson from the PC games makers: Just because a lot of people want to use your product doesn't mean they want to pay s lot of money for it.

Web-based multimedia entertainment is the videophone of the latter '90s: an attractive technology that no one wants to pay for.

Paul Gillin, *editor*
Internet: *paul_gillin@cw.com*

LETTERS

Mac column leads to charges of bigotry and simple dismay

A rare moment of lucidity for Apple
Galen Gruman

Sometimes, even Apple listens. That rare event occurred just recently, when Apple's anything-but-interim CEO Steve Jobs told Macintosh developers he was abandoning the effort to replace the Mac OS with a new operating system, code-named Rhapsody.

Sticking with Mac OS lets business users breathe easy.

It's good that *Computerworld*'s Galen Gruman is so unbiased about the Apple Macintosh ["A rare moment of lucidity for Apple," CW, June 15]. He should really just avoid all newspapers, magazines or Web sites that are produced on a Mac. That way he won't be unduly swayed by the facts.

In a world of diversity, it's good to know that there are still some bigots around.

Kori Lessing
Ohio State University
Columbus, Ohio
lessmg.3@osu.edu

I read Galen Gruman's column with dismay.

Once again, the facts as presented are extremely misleading.

I am an Apple developer who welcomed the announcement. We developers and users gain the best of *both* worlds.

The foundation of the Mac OS has been retained and improved so that existing applications will "just work."

Apple didn't throw the Rhapsody technology into a "black hole" but rather it modernized the existing Mac OS tool box and stuck it on top of that great technology.

The end result in Mac OS X is arguably the fastest, most stable, most user-friendly desktop and server operating system on the market today.

Jason Engle
New Orleans

At least we'll be prepared for the REALLY big date problem

There is one glimmer of comfort for all the businesses swept up in the coming tidal wave of year 2000 lawsuits,

The courts will be so overwhelmed that their year 2000 cases will probably be heard around the time of the year 10000 problem.

Tom Lion
Great Falls, Va.
tlion@wizard.net

Why wasn't GroupWise tested on native platform?

I found it disturbing that *Computerworld* tested Novell's GroupWise product ["Clash on the Internet," CW, June 1] on Windows NT Server, rather than on its native platform: IntranetWare 4.11. Microsoft's Exchange product and Lotus' Domino products were tested on their native platforms — as was Sun's Internet Mail Server — so GroupWise should have been also. Most people who deploy GroupWise will do so on IntranetWare.

I was also confused as to why you did not test "native" message exchanges (i.e. sending Exchange messages to Exchange users, GroupWise messages to GroupWise users) in your performance tests, rather than solely testing the SMTP gateways of these products. Day-to-day, I would think that most managers are interested in internal performance, rather than "how fast can I get Internet mail?"

Thanks for an interesting article, nonetheless.

Jonathan Feldman
Technical systems manager
Chatham County ICS Department
Savannah, Ga.

More letters, page 38

Computerworld welcomes comments from its readers. Letters shouldn't exceed 200 words snd should be addressed to Maryfran Johnson, Executive Editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax number: (508) 875-8931; Internet: letters@cw.com. Please include an address and phone number for verification.

FROM THE EDITORS OF

COMPUTERWORLD

VOLUME 3, NUMBER 7

JULY 27, 1998

Intranets

A MONTHLY LOOK AT WEB DEVELOPMENTS BEHIND THE FIREWALL

SECURITY

Intranets are exposing corporate networks to increased threat. Passwords and firewalls are no longer enough.

Halt, Hackers!

By Laura DiDio

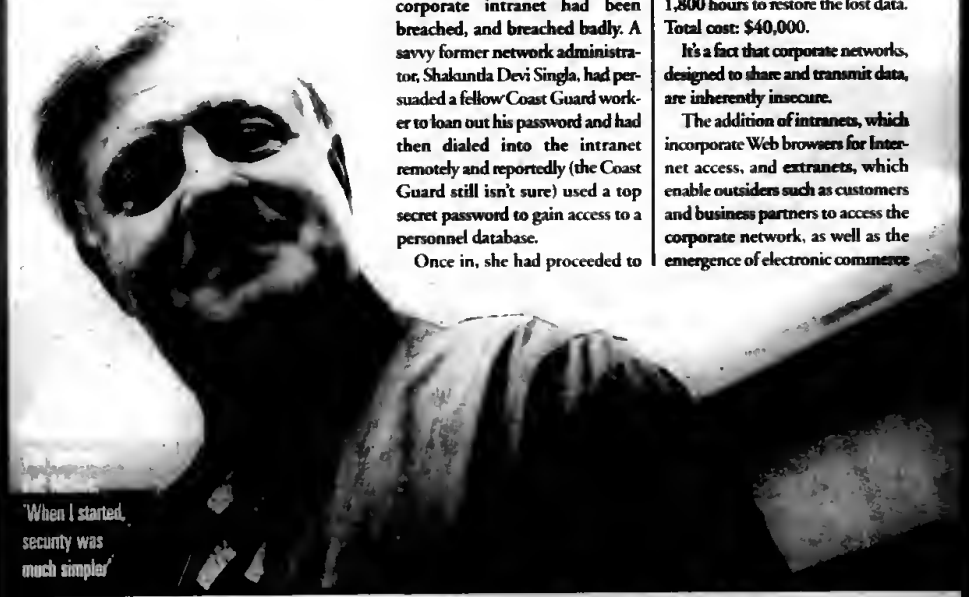
Officials for the U.S. Coast Guard were incredulous. Despite all their precautions and safe security policies, the security of their corporate intranet had been breached, and breached badly. A savvy former network administrator, Shakuntla Devi Singla, had persuaded a fellow Coast Guard worker to loan out his password and had then dialed into the intranet remotely and reportedly (the Coast Guard still isn't sure) used a top secret password to gain access to a personnel database.

Once in, she had proceeded to delete personnel information from that database.

The hack itself took only a couple of hours, but the aftermath was much worse. It took 115 workers 1,800 hours to restore the lost data. Total cost: $40,000.

It's a fact that corporate networks, designed to share and transmit data, are inherently insecure.

The addition of intranets, which incorporate Web browsers for Internet access, and extranets, which enable outsiders such as customers and business partners to access the corporate network, as well as the emergence of electronic commerce



'When I started, security was much simpler'

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SECURITY

Continued from page 1

can make the enterprise even more porous for unwary businesses.

Sometimes the culprits are unwitting end users who make errors that compromise network security on a daily basis. These errors range from the arcane, such as dialing into forbidden Internet sites and downloading freeware that can be riddled with viruses, to the mundane, such as sharing passwords and leaving systems unattended. These actions make the intranet easy prey for hackers.

So what can be done to combat these threats? Companies need to start with a good foundation. That means implementing strong security policies and procedures and making security an intrinsic part of network operations and daily life. We talked to security experts and corporate security specialists, asking for their suggestions and approaches. Some of their recommendations: Take inventory of corporate data, use more than firewalls for security, encrypt sensitive corporate data and conduct audits to assess security weaknesses. Basically, they say companies need to constantly review security procedures and practices.

That's what Bob McKee has done in response to the growing siege of intranets. McKee, director of information management security at The Hartford Insurance Co. in Hartford, Conn., and a 13-year veteran, has 26 people in his security organization. The 22 security managers and four disaster recovery and business contingency planning managers use a combination of education, accountability, common sense and good security products to safeguard the firm's data.

"When I started, security was much simpler. Our biggest worry was passwords and IDs for the mainframe," McKee recalls. The introduction of intranets, Web browsers and Internet access has made security a 7 by 24 job. Education starts with the employee's first day on the job. Along with a booklet on benefits and corporate policies, employees are given handouts of company security policies governing computer usage, good security practices and all the no-no's.

And for the past three years, The Hartford, in conjunction with the Computer Security Institute, has also published *Frontline*, a quarterly security publication distributed to all 25,000 worldwide employees. It contains articles on security issues, Internet threats and vulnerabilities, and hackers. The end result, McKee says, is heightened awareness.

"We realize people will be reluctant to rat out their employees and to report security violations. We're not looking to nail individuals to the cross — we want to educate them and make sure security is never far from their minds so they turn the computer off at night, don't keep their passwords pasted to the monitor and don't download freeware from the Internet," McKee says. "It's also paid off with regard to the increasing number of virus hoaxes. We now get people calling us immediately when they suspect something," he adds.

McKee's biggest intranet security concern is ensuring that he has the right level of protection for all the servers. "I determine that by knowing which departments have intranet servers up and running and making sure that we communicate and determine if the data needs to be protected," he says. So far, he adds, the proactive measures have helped The Hartford avoid a serious hit.

FOOTING THE BILL

Not every security specialist can get upper management to foot the bill for the type of intranet security The Hartford uses. "I complain and complain and show my managers all the alarming statistics and clip the stories about the hackers, and it still does no good," says the security administrator at a Fortune 1,000 firm in the Northeast who requested anonymity. While the firm does have firewalls and antivirus packages installed, the security manager says he still worries because "the virus products are three versions old, and we don't have the latest upgrades for the firewalls. You could say I pray a lot."

Corporations that ignore security and fail to itoplement security policies and procedures do so at their own risk, says Mark Gembicki, president of Warroom Research, Inc., a security consultancy in Annapolis, Md. "If you're not proactive about safeguarding your data, it's a question of 'when,' not 'if' you'll get hacked," he says.

With such bleak prognostications, what can be done to ward off disaster? Plenty, security administrators and analysts say.

Warroom's Gembicki advises businesses to take inventory of all data, determine what needs protection, pinpoint areas of vulnerability and add appropriate security devices and policy measures. If you have a server with sensi-

Security Tips

Here's a list of tips for securing your intranet, compiled by Peter Shipley, a security architect at KPMG Peat Marwick in San Francisco.

1. Don't let users log directly on to an intranet host server.

2. Intranet passwords should contain alpha and numeric characters in both upper and lowercase and be no longer than six characters. Limit a user's invalid log-in attempts.

3. Encrypt sensitive data during transmission.

4. Restrict the use of .rhost and host.equiv files that let users access intranet hosts without a password.

5. Install intranet detection mechanisms (i.e., intrusion detection and audit trails).

6. Inventory all intranet systems and data, and have an intranet disaster recovery plan.

COVER PHOTOGRAPH BY JOHN SOARES

Forewarned and Forearmed

There's no substitute for thorough planning.

Mike Anderson is a former security investigator at the Internal Revenue Service who co-founded New Technology, Inc., a security consulting firm in Portland, Ore., that caters to Fortune 500 accounts. He says many of his clients are "astounded to find that we can frequently back into systems and networks in 30 minutes or less," despite the fact that they think they've done all the right things to secure their intranets.

One of Price Waterhouse's Tiger Team customers, a Fortune 100 manufacturing business, was very proactive about installing the latest firewall equipment and maintaining good security policies, says Gary Loveland, a partner in Price Waterhouse's IS risk management group. The Tiger Team's initial attempts to defeat the firm's intranet security were repulsed.

However, the company did have one glaring weakness: It had recently acquired a subsidiary and attached that firm's network to the corporate backbone. "Not only did they not check for that but the subsidiary had a live connection to the Internet and the company didn't realize it," Loveland says.

And then there are just some businesses that, despite threats and warnings, refuse to take security seriously.

Anderson relates that one of his clients — an international oil company — had no security policies or procedures in place. "We told them their laxity meant they had no way of even knowing if their networks were hacked. Needless to say, they quickly rectified the matter," Anderson explains.

Most of Anderson's clients though, are doing just the opposite. "We have no increasing number of businesses that are asking us for 'special' ways to encrypt their data, especially as it relates to intranets and the Internet and electronic commerce," he says.

— LAURA DIDIO

IN AN EXCLUSIVE Warroom Research survey due out next month, of 320 firms polled on the likelihood of a security crisis hitting them by the Year 2000, 100% say it is possible.

tive financial data on it, limit access or physically isolate the financial network from the Web server. "Security activities like these are ongoing, constant processes, like weeding the garden. If you don't do it regularly, you will be overrun with weeds — or hackers," Gembicki says.

Taking inventory of all corporate data is pragmatic from a cost savings basis as well, says Mark Fabro, director of risk assessment at Secure Computing, Inc. who performs ethical, or "white hat," hacks for his business clients. Many firms, he notes, have limited funds and can't afford the latest and greatest firewall or antivirus version. "Taking inventory of all corporate data helps the manager decide which data most needs to be secured. If you have people who rarely access public data networks or do a lot of messaging, chances are they can get by with older virus packages."

Firewalls have become something of a two-edged sword. On the one hand, they do represent a good first line of defense and a necessary component in the overall intranet security infrastructure. But they can also lull businesses into a false sense of complacency.

"Firewalls are like a gate around your property: They guard the perimeter. But they can also be like France's Maginot line: If there's a security hole in your network operating system, operating system or application, the hacker will simply bypass the firewall and get right to your sensitive data," Fabro says.

SCALING THE FIREWALL

Peter Shipley, a security analyst at KPMG Peat Marwick LLP in San Francisco, ought to know. In his former incarnation as the hacker "Evil Pete," he regularly and easily invaded corporate systems — going around or hacking right through firewalls. His experiences provide valuable insight on how easy it is to compromise the corporate network if users are unwary or unmindful of properties of their software and hardware.

For instance, it can be fairly easy to hack the firewall's host hardware. "If the firewall runs on a Windows NT or Unix box, it may be possible to break into the underlying operating system by hacking into the TCP/IP address or via the dial-up modem. That's a common method hackers use to bypass the firewall and gain direct access to intranet systems and servers," Shipley says.

To further compromise an already-hacked network, hackers often install a common network sniffer. Sniffers are devices used for network diagnostics. "But they can also be deployed for covert data interception on intranet and HTTP, telnet and FTP servers, to name just a few," Shipley says. The solution is to do thorough, regular inventory checks of every device on the network and remove suspicious gear.

Fabro also recommends that security managers and network administrators thoroughly check and test their firewall configurations on a test network before installing them on a production server. "Errors in firewall configurations are very common. Use common sense — don't just take it out of the box and put it on your network. A firewall that's configured improperly is useless," he says.

Once the hackers enter your corporate intranet via firewalls, software or operating systems, they can

Continued on page 6

WHAT'S ONLINE

To learn more about the risks of ignoring security, visit Intranets online at *www.computerworld.com/intranets*

A closed network is an oxymoron.

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Continued from page 3

roam at will, wreaking havoc and then "gracefully covering their tracks," Shipley says. Even scariet, using tricks of the trade such as log modification tools, they can cover their tracks and destroy all evidence of their presence.

"Hackers can cover up an invasion and make an attack look like an act of God, such as a disk crash. And that's not the end of it — they often thoughtfully leave backdoors for themselves to gain reentry," Shipley says.

One obvious solution: Encrypt sensitive corporate data to make it harder for prying eyes to see. This usually means two-factor authentication that includes encrypted data and user PINs.

"WE'RE NOT LOOKING TO nail individuals to the cross — we want to educate them and make sure security is never far from their minds."

BOB MCKEE, THE HARTFORD

KEEP PACE WITH GROWTH

That's what Reliant General Insurance Services, Inc. did to batten down the hatches on its corporate intranet. The San Diego-based firm, which insures high-risk motorists, has seen explosive growth in its business in the wake of California making insurance mandatory in 1997. But with that growth, Reliant had to find new ways to safeguard its data because all of the company's underwriters worked from home using insecure, dial-up modems, says Cary White, Reliant's director of MIS.

"We can't afford a hack. There's too much sensitive customer information being transmitted from out remote underwriters to our intranet via the Internet. If we got hacked, there would be big fallout. I'd expect customers to go to our competitors for their insurance," he says.

Reliant's solution was to install a virtual private network from Axent Technologies, Inc., which provided the company with encrypted passwords and data, as well as encryption at the firewall.

As for the applications, operating systems and network operating systems, they too should be thoroughly tested. And network administrators and security managers need to familiarize themselves with the ins and outs of the system. Windows NT, for example, has lately become a favorite hacker target. But NT security is no better or worse than that of most rivals.

The problem is that NT comes out of the box in an inherently "trusting" manner. It's up to the network administrator to turn on the existing security controls. NT Server does contain things such as intruder account security, which lets the network administrator lock an account if the password is entered incorrectly a specified number of times.

But first you have to know it's there, and there's no substitution for hands-on training. Jeff Dazell, LAN network services administrator at Dana Corp., a $7 billion automotive parts manufacturer with 45,000 employees worldwide, says his network administrators took "18 months to get fully up to speed" on NT security. Part of the issue was that NT 4.0 was a new operating system with 16 million lines of code. And as with any new operating system, there are always issues of backward compatibility with older operating systems and applications.

If the network administrator isn't savvy enough to implement the security default parameters, internal and external hackers could get carte blanche supervisory rights to access, delete, write and execute other users' files that share the same Windows NT domain directory.

The fix for this is simple and free. The network administrator must remove the full access control at installation and then grant users more appropriate read/write access privileges. Another smart move is to disable the Guest accounts and rename the Administrator accounts.

Point solutions for securing the intranet all work well, but to really minimize the chances of a successful intranet hack, experts advise businesses to get a security audit or risk assessment check. Prices range from thousands to hundreds of thousands of dollars, depending on the size and scope of the organization. For a fee, security consulting firms, including all Big Six accounting firms, will come in and perform an ethical hack designed to pinpoint the strengths and weaknesses in the organization.

Gary Loveland, a partner in Price Waterhouse's IS risk management group, says an initial sweep of a user's premises uncovers no lack of antivirus software or protective devices, such as router- or Internet-based firewalls. "Users have girded for battle and are generally armed to the teeth with the latest security devices. The biggest vulnerability we see is that businesses don't take the time to really assess where their weaknesses are. They're usually tripped up by some silly backdoor that's been left open," he says.

In this era of mergers and acquisitions, a company that has taken all the right precautions might unwittingly compromise its entire enterprise network by adding a newly acquired subsidiary network to the enterprise. "A newly acquired company, especially if it's small, could have big gaps in its network. So we advise companies to scrutinize security before adding new networks onto the enterprise," he says.

Look at the Coast Guard: They took all the right precautions and still got attacked. Sad to say, the Coast Guard was lucky, according to Chris Klaus, chief technology officer at Internet Security Systems, Inc. in Atlanta. "Not only did they get off cheap — $40,000 data losses from intranet hacks are nothing these days — but they got off easy. They were able to identify the data that was lost and restore it," he says.

DiDio is a *Computerworld* senior editor, security and network operating systems.

PROJECT: MASTERCARD INTERNATIONAL, INC.

Going Above and Beyond the Firewall

By Steve Alexander

Credit-card firm MasterCard International, Inc. has gone well beyond the use of firewalls to insure the security of data shared among 2,400 internal users and 23,000 financial institutions worldwide. Purchase, N.Y.-based MasterCard uses a variety of security approaches, from traditional passwords to secure ID cards that generate ever-changing passwords. Sam Alkhalaf, St. Louis-based senior vice president of technology and strategic architecture, explains the security strategy.

WHAT THEY'RE DOING

MasterCard uses passwords but deals with problems such as people forgetting them or using obvious passwords. Some users have ID cards that can be read by card readers. In addition, about 2,000 users who need greater security use secure ID, which have a little window with password digits that change every two minutes. Those changes are synchronized to an algorithm in the computer system.

The firm also uses an internally developed piece of security software called MasterCard Online, which resides on its own server and interacts with a separate secure ID server and Cisco Systems, Inc. routers. The firewall comprises all three pieces. All extranet applications ride on top of MasterCard Online, which provides them with common communications, security and encryption.

Applications servers are on protected network segments, with applications invoked only through the MasterCard Onlioe desktop icon. Users must be authenticated to gain access to applications, and additional levels of security can be added at the screen or field level.

BENEFITS

Benefits include a consistent security policy across all kinds of different applications; applications that can leverage MasterCard Online's security strength with little or no incremental investment; and side processes such as managing user IDs, which are handled for the user and are well-defined and proven.

WHAT'S AHEAD

MasterCard is looking at new ways to use passwords. From a cost perspective, the combination of a password and the secure ID card is extremely effective for the level of security it provides. It's like a bank ATM machine.

The company has looked at biometric technology, which recognizes fingerprints, faces or the iris of the eye. The trouble is that those methods are expensive.

MasterCard has also taken a preliminary look at the adaptive firewall, which identifies potential threats by looking at patterns of use.

TECHNICAL CHALLENGES

Security places a burden on users, who may not use an application if they perceive the security procedures as too difficult. As a result, the secure ID cards are used only for very sensitive applications.

TOOLS

Every firewall comes with its own audit trail logs. MasterCard may add its own alerts. MasterCard Online is a custom-developed application. The Secure ID cards come from Security Dynamics Technologies in Bedford, Mass.

RETURN ON INVESTMENT

The firm believes MasterCard Online allows it to bring new applications to market more quickly by answering about 90% of security concerns.

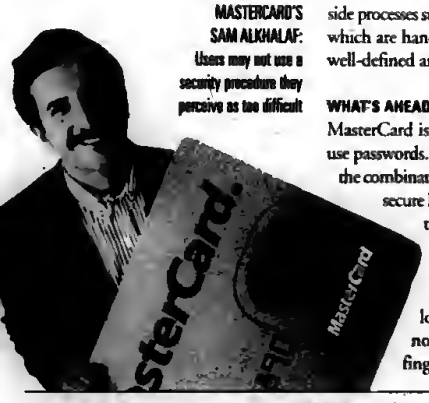
ADVICE

Establish a group dedicated to data security and form an incident response team to respond to security breaches. Also, use independent consultants or third parties for security reviews and simulated attacks on your firm's network. Lastly, be sure your extranet users have a clear idea of their responsibility to keep your data and network data confidential.

Alexander is a freelance writer in Edina, Minn

WHAT'S ONLINE

For an expanded view of this project with RealAudio clips, point your browser to
www.computerworld.com/intranets



MASTERCARD'S SAM ALKHALAF: Users may not use a security procedure they perceive as too difficult

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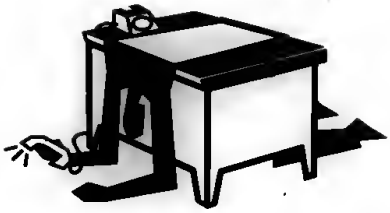

DON'T LET THE DESKTOP SLOW YOU DOWN.

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They wait for repairs. They wait for applications. They wait for upgrades.
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When an application is broken it locates the problem and repairs itself from the network copy,
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If the user has a problem with their desktop, they can click on an icon to connect to the
appropriate person and demonstrate the problem remotely.
Z.E.N works leverages the power of Novell Directory Services™ so that users have a digital persona with their
unique combination of access, preferences and applications, regardless of which desktop they use.
In other words, you get the benefits of an NC from your PC.
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Are people ready to pay for good info on the Web?

Tim Andrews

The ongoing debate in the Web world is whether services that provide information for a fee can thrive — or even survive. Will people pay for information when so many sites provide it free of charge? Should they? I'd argue yes to both questions.

The Web has opened up unprecedented opportunities to communicate and share ideas and information, locally and globally. It arrived as the great equalizer of access — giving anybody with a browser the ability to reach an unlimited universe of information and giving even the borderline technically literate the ability to become a "publisher."

Seemed like a great deal at the time, didn't it? Just pay for the access and get lots of free information. But as we approach the 21st century, that model has quickly become outdated. Today, the Web is a macromedium that serves serious business professionals as well as general consumers. It's time to re-evaluate the Web in terms of what it actually provides those vastly different groups.

Cyberspace offers too many pseudo-answers from too many dubious sources.

Generally speaking, the Web offers too many pseudo-answers from too many dubious sources. Lots of wanna-be publishers have cluttered the cyberscape with their Web sites.

But if you know where to find them, there are valuable sites that offer information based on trusted sources and reliable content that provides context, perspective and analysis that can be used immediately in decision-making. That's intelligence, not just facts. And intelligence helps people make wise decisions. It improves efficiency, productivity and, in the end, profitability.

Shared intelligence commands a price, no matter what form it takes. Experts don't consult for free. Authors don't write books for free. Intelligence found on the Web — via services that integrate a variety of authoritative content or sites where content is based on a particular publication — also should carry a price. When it comes to intelligence, you get what you pay for.

Sure, there always will be people who'll plow through massive amounts of sometimes moot information or random facts, hoping to stumble across what they're looking for. But business professionals must make smart decisions quickly. Wasted time is lost revenue and missed opportunity.

Home buyers hire real estate agents to find that perfect home. Readers buy newspapers and magazines to get better informed. In the same way, business professionals are paying — and will continue to pay — for valuable information and time saved.

Fascination with the powerful Web is waning, and expectation of real answers to crucial business questions is growing. Few free sites will have the resources to respond to the increasingly complex information requests of business professionals, and even fewer will find the right business model to guarantee long-term success.

For some Web sites, just as with television and radio, advertisers alone will provide the capital muscle needed to offer valuable content. For others, a mixture of advertising and subscriber fees is working. And for some traditional online information services, measured experimentation with an ad-supported model — as an alternative to the all-subscription one — is just beginning.

By itself, Web technology carries little marketable value. Access to a world of information doesn't matter if the content fails to satisfy. If television is guilty of "57 channels and nothin' on," as Bruce Springsteen has strummed, how many wasted channels will continue to occupy the Web? Stay tuned. □

Andrews is vice president and editor of enterprise products at Dow Jones Interactive Publishing. This unit of Dow Jones & Co. produces Dow Jones Interactive, a business intelligence service for firms. His Internet address is tandrews@wsj.dowjones.com.

Bad news for high-rent consultants

Michael Schrage

Wanna radically transform your hidebound IT culture? There are a hundred thousand consultants who'll cheerfully play change agent for a not-so-tiny fee.

Of course, the organizational coefficient of friction might be high and the managerial interactions technically traumatic — but hey, you can't make an omelette without breaking a few eggs, right?

But those consultant-bites-organization (and organization-bites-back) stories are a dime a dozen in the lengthy literature of IS management. By sheer accident, I stumbled across a refreshingly provocative new-and-improved version of how computational cultures can change and change fast. And no, it doesn't require a multimillion-dollar retainer.

I was talking with the vice president of advertising at Procter & Gamble — nothing less than the world's largest advertiser — about the current and future impact of the 'net on how P&G will market itself and its formidable array of consumer brands, such as Tide, Crest and Pampers. We talked banners and click-throughs and digital coupons. But when I asked the executive how a Cincinnati-based global company had to change to integrate those new media into its thought and managerial processes, he gave credit to — believe it or not — P&G's summer interns.

P&G puts its business school summer interns (who are no slouches — they come from tony places like Harvard and the University of Chicago) on internal task forces to evaluate aspects of the company that might stand improvement. At the end of their tours, the interns present their findings and recommendations to the company chairman. Apparently, the most recent intern task force recommended that P&G dramatically revamp its infostructure and make Internet access available to everybody in the organization. Everybody.

To its credit, P&G top management didn't opt for the thanks-so-much-and-have-a-nice-life response, but rather recognized (as smart marketing companies so often do) that demographics matter. This generation of future managers had grown up in a world where instant access to information via E-mail and Web sites is the rule, not the exception. Indeed, the advertising executive told me, if P&G had any hope of attracting and retaining the best graduates of the nation's top business schools, the company had to rethink its investment in and management of digital technology. P&G treated the children's-brigade task force as a window to the future — and an opportunity for cost-effective introspection.

To be sure, other organizations such as Johnson & Johnson and McKinsey & Co. have discovered that the emergence of these new "digital demographics" requires them to invest more and smarter in their infostructures. That has little to do with issues of the Gen X work ethic (a topic for another column) and more to do with the reality that, for the typical 25-year-old college graduate, an organization without Internet access is precisely like an organization without telephone access. While 45-year-old general managers intellectually understand that, many don't viscerally appreciate it.

P&G's new-media strategy comes from summer interns.

In fact, too many of them don't appreciate it until competition and a blue-chip consulting firm aggressively insist that they can't influence tomorrow unless and until they start to live in it.

The fact that technical transformation of that sort can be intern-driven rather than purchased at a premium from the madding crowd of consultants reflects a powerful and important truth: The creative management of digital capital depends on the creative appreciation of human capital. □

Schrage is a research associate at the MIT Media Lab and author of No More Teams! *His Internet address is schrage@media.mit.edu.*

Getting buy-in from the brass

Bill Laberis

Recently, IDG Research (which shares its corporate parent with *Computerworld*) conducted a series of focus groups to examine critical success factors in building and deploying successful data warehouses.

To no one's great surprise, a leading success factor is the ability to get project buy-in from, and full support of, senior management.

How often have you heard that stipulation — not only for data warehouse projects but for virtually any large-scale, corporatewide IT endeavor? Whether for enterprise resource planning (ERP) projects, intranet development, sales force automation rollouts or any other IT plans that cut a broad corporate swath, you need senior management buy-in.

Sounds great. Except there probably aren't a lot of senior managers out there who missed the front-page story in *The Wall Street Journal* in April that documented the pathetically high failure rate of large-scale projects. The article cited data from a 360-company survey by The Standish Group International that found 42% of corporate IT projects were abandoned before completion. (Oddly enough, some of the biggest IT success stories from a return-on-investment (ROI) point of view involve data warehouse implementations.)

Sponsorship and support are critical to projects. How do you get them?

Still, in the face of grisly data such as the Standisb survey, it's hardly surprising that the answer from management's mouth when asked about getting aboard a companywide IT project is, "What part of 'no' didn't you understand?"

Moreover, managers have figured out that the unprecedented economic expansion in the U.S. has to run out of steam at some point, making them even more wary of long-term projects.

Given that executive sponsorship and support is critical to project success, how do you get them?

- In many cases, you simply won't. There really are people like Dilbert's boss who run large departments, even large companies. Their lack of understanding of the business-critical nature of IT is exceeded only by their paltry management vision. The important thing is that you recognize when senior management is populated by such people. Then either hope the board gives them the boot, or get out yourself.
- Managers love data and statistics. Research by International Data Corp. (IDC) and SAS Institute has shown enormous ROI realized by data warehouse clients that undertake large-scale implementations. IDC also named names, and the list of users included several venerable firms. That kind of background provides psychic support to get management on board with big, expensive projects.
- You must be realistic about the general image of the IT department at your company. That image is derived mainly from the overall satisfaction, or lack thereof, of the great unwashed: end users. Their managers report directly to the senior managers whose support you're trying to enlist. If that image is neutral or worse, you and your project are in trouble.
- This goes without saying, but if you can't convey the value of your requested IT investment in concrete business terms, your project is doomed. A few years ago, many corporatewide intranet projects got approved on the strength of a justification that went something like, "We'll be a better company if everyone is connected better."

With the whiz-bang now gone from intranets and with some notable ERP failures documented, managers aren't naive anymore.

If a major IT project can't clearly be shown to have a long-term positive impact on revenue and profits, it should, and will be, stillborn. □

Editor in chief at Computerworld *from 1986 to 1996, Laberis is now president of Bill Laberis Associates, a consulting and publishing company in Holliston, Mass. His Internet address is bill@laberis.com.*

Why Microsoft competes with its customers

David Moschella

Microsoft's recent launch of its HomeAdvisor real estate buyer service raises the same questions that came up when it entered the online travel, magazine and automobile businesses:

Does it make sense for any company to compete so directly with its customers? Why is Microsoft doing this?

Microsoft has two main motivations. First, the business world has entered a once-in-a-lifetime phase in which industries are being entirely reinvented online. Surely, every company should take a hard look at how it can best get in on the ground floor of these revolutionary developments. That's especially true for Microsoft, which has mountains of cash and needs strong growth to keep its stockholders happy.

More prosaically, even if Microsoft's Web businesses achieve only modest success, they nevertheless play an important role in pushing the market forward. They generate enormous publicity, they demonstrate concepts, and they force existing players to respond. If the online magazine *Slate* weren't funded by Microsoft, it wouldn't enjoy anywhere near its current exposure — and may well have already been shut down.

Of course, the downside is that competing with your customers can damage your efforts in other areas. When Microsoft sits down to negotiate with the airlines, banks or various media and cable TV companies, its competitive posture on the Web can never be totally out of mind. IBM, and CEO Lou Gerstner in particular, has been pounding away on that issue for a couple of years now, so far without much visible effect.

Fear of jeopardizing existing relationships is sufficient to prevent most companies from recklessly stepping on customers' toes. But Microsoft is so dominant in so many software markets that the company apparently believes it can get away with almost anything. After all, will large numbers of enterprises really shift to Apple or ignore Windows NT? No.

But if Microsoft is seen as a competitor of a large corporate customer, that might tip the customer/competitor's balance against Exchange, SQL Server or Internet Explorer. That's the main risk Microsoft is taking.

Given the wide range of its Web business initiatives, however, it's obvious Microsoft believes the benefits far outweigh the risks. Thus, the only real issue now is how successful those efforts are likely to be. This boils down to one main, but complex, question: Will Microsoft's unique combination of money, talent, technical capability and marketing power overcome its essentially hostile, nonorganic entry into these markets?

It'll be a close call. Microsoft brings a great deal to the table, but it will run into fierce and powerful interests. The national organizations for travel, real estate, stock trading, credit cards, television and other sectors are unlikely to roll over as easily as some of Microsoft's software competitors.

Every company should look at joining the Internet business revolution.

Perhaps more important, in contrast to the software industry, these Web services businesses aren't winner-take-all competitions. This means that even if Microsoft is successful, it probably won't be able to establish any new online monopolies. With Web services, there's no customer lock-in or proprietary APIs to leverage.

Thus, the net effect of Microsoft's Web business strategy should be to accelerate overall online competition. When Microsoft enters any new form of electronic business, it serves as a wake-up call for existing players. It might even generate enough of a backlash to help limit Microsoft's existing software monopolies — or at least diminish future ones. It all sounds pretty good to me. □

Moschella is an author, an independent consultant and a weekly columnist for Computerworld. *His Internet address is dmoschella@earthlink.net.*

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LETTERS

SEC has a few things of its own to disclose

I'M LAUGHING and snorting over the headline in your June 22 issue, which begins "SEC tightens up." Imagine my surprise and dismay at finding out that the SEC will issue a new interpretation of its year 2000 disclosure rule while virtually ignoring its own problems!

I work for a public company and have had the pleasure (cough, cough) of using the SEC's antiquated SGML tagging and communications software for making document filings. It won't even work under Windows 95 or NT. We have to keep DOS machines around just to make SEC filings. It is a truly horrid piece of software.

I called the SEC and was told that no project timetables, testing plans or the like could be released to me because they were "confidential." Looks like we just may have to revert to filing paper documents.

Come on, SEC. Let's talk about who really needs to adhere to standards of disclosure.

Marcy Brown
Greensburg, Pa.
mbrown@alleghenypower.com

Here's hoping Digital can teach Compaq new tricks

EDITOR Paul Gillin's recent editorial ["R.I.P. Digital," CW, June 15] was a bit heavy-handed and negative. I agree that Digital failed to enter the PC market quickly enough. But I think Digital has become very flexible in its line of products and support. The Alpha chip is far from a loser. It was the fastest chip supporting 64-bit applications while Intel was still trying to get 32-bit chips out there. There is a great future for the next-generation Alpha chip if a larger AlphaNT or Alpha-Linux community developed.

Digital is a great company whose products and support I can only hope won't become tainted and ugly in its new role within Compaq. Maybe the Digital tail can wag the Compaq dog into becoming a better company.

Fred Calef III
Data and GIS specialist
Ohio University
Athens, Ohio
calef@ilgard.ilgard.ohiou.edu

Microsoft won't answer year 2000 question . . .

WILLIAM ULRICH's comments on Microsoft's year 2000 compliance efforts ["Microsoft offers little year 2000 help," CW, June 22] reflect my dealings on those issues with Microsoft.

Year 2000 compliance, like software, is a binary decision, either yes or no. If one takes this strict view of year 2000 compliance, then Microsoft products are in terrible shape.

An issue that I asked about many weeks ago and still isn't resolved is whether NT directly assesses the real-time chip. If it does, then those using NT on most PCs are in really bad shape, as most PCs do not have year 2000-compliant real-time chips.

One would expect to face unresolved issues at the turn of the century.

Stuart Greenfield, analyst
Comptroller of public accounts
State of Texas
Austin
stuart.greenfield@cpa.state.tx.us

. . . but it designed a heck of a user interface

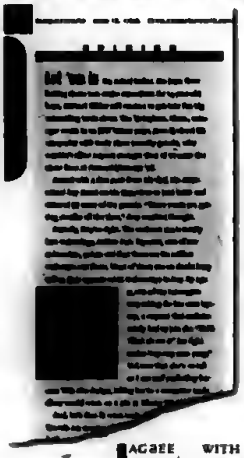
I'M WAITING in response to David Moschella's article "The bright side of monopoly" [CW, June 8].

Computers have become ubiquitous, and with them came proprietary operating systems, the by-products of corporate competition and oftentimes infighting.

Largely because of the strategic genius and fiscal wherewithal of Bill Gates, this futility ended with the de facto standardization of Windows. Well-defined interfaces are something we couldn't have without Windows. Developers have had virtually limitless opportunities to exploit this due to the Microsoft monopoly. Nothing good can stem from the Justice Department's antitrust action. The more government regulates, the less freedom there is for innovation and intellectual freedom.

Jonathan R. Verlin
W. B. Saunders Co.
Elkins Park, Pa.
jverlin@wbsaunders.com

Kids at trade shows: Let 'em in or keep 'em out?



I AGREE WITH Executive Editor Maryfran Johnson's editorial on allowing "underage" admission to trade shows ["Let 'em in," CW, June 15].

My son had his first computer at age 11 and was marketing his game software successfully by age 13.

I took him with me to MacWorld (no problem gaining admittance there), and when he was 15, he attended a database seminar with me.

Today, he is 27, has a computer science degree, does software development and network consulting and continues his own software business.

The exposure at an early age has provided him many opportunities through the years. I often meet business contacts who ask, "Aren't you Tad Woods' father? I remember when . . ."

Ted Woods
IT director
Virginia Housing Development Authority
woodstw@vhda.state.va.us

ABOUT KIDS at trade shows: Have you just lost all touch with reality at this point? Trade shows do not exist to babysit your children.

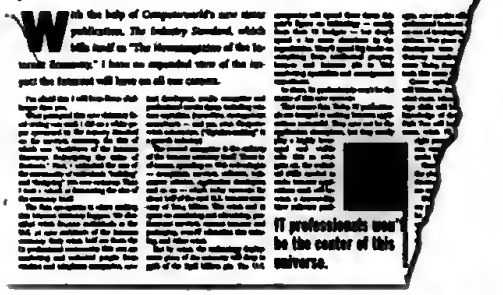
Their goal is to sell things. Unless your child has recently come into a fortune and intends to try out a Cisco router or discuss the merits of Unix vs. NT in preparation for upgrading a building full of servers, I really don't think the kid belongs there.

Remember the goals: Business. Buying. Selling. Maryfran Johnson's column inches would have been better spent shooting down the idiot who was convinced that Microsoft had a secret plot to use Internet Explorer to prevent him from downloading the latest version of Netscape Navigator.

Jon McGuire
Senior development manager
Merrill Lynch & Co.
jon@mcguire.net

How to prosper in the new Internet economy

John Gantz



Readers disagree on future importance of IT pros

READING John Gantz's column ["How to prosper in the new Internet economy," CW, June 22] as a software engineer, most of it made sense to me. But I have a major disagreement with one of your statements. You say at the end, "Career options for IT professionals will bifurcate." Yes, this is true. IT people will have other options, but the technical side is not going to reduce.

Software tools of any kind make software people *more* productive. There is an *unlimited* amount of software that needs to be done in the world.

In the new economy, IT/software knowledge is power, as in money. Software is starting to rule things and will continue to rule, even though many businesspeople can't stand the power we computer geeks wield in today's society.

The power of IT/software knowledge isn't going away, no matter how many people can't stand that. Get used to it.

Butch Shoemaker
Software engineer
Fujitsu Networking Solutions
Richardson, Texas

COLUMNIST John Gantz's piece in *Computerworld* has the right target outcome: "In short, IT professionals won't be the center of this new universe." Clearly, the next five to 15 years are a transitional period.

Technology is still clunky enough that "business side" folks can't invest the time to master many technical tasks, and so they rely on interpreters. But when it's all more intuitive and the technology is truly transparent, a vast number of technical people who bridge the gap today between the technology and users will have to find a new role.

And why not the business side? I'm already seeing this trend — tech people from my support team are eyeing jobs in mainline production.

Thanks for sharing the good thinking.

Doug Kniffin
Director of planning, finance and technical operations
Time, Inc.
New York

Get rid of fed meddling and public schools

THANK YOU very much, Bill Laberis, for your op-ed piece on federal meddling in IT ["Memo to feds: Scram!" CW, June 1]. Right on!

Even cable TV providers with vision and plans have seen federal regulations stifle implementation of their intended offerings.

As for public schools, they should be abolished. There is no more insidious means of commandeering the minds and spirits of a free people than monopolizing the education of the young.

David A. Nelson
Information Engineering
Corvallis, Ore.
davenelson@aol.com

Would they call Bill Gates' cemetery Reboot Hill?

COMPUTERWORLD's June 22 article "Windows 98 sales on slow ramp" had me fuming. Not for the article itself, but for the frustration I have with Windows. I want to know why anyone should have to pay anything for Windows 98 when it really is an upgrade to a product that is full of problems. I'm going to ask my boss to start paying me by the number of times I have to restart Windows 95.

Why don't we all just write Bill Gates a blank check, let him fill in the amount and get free Windows 99, 00, 01, etc. for the rest of our lives. When will this end? I hope they don't have to bury me in a cemetery owned by Bill Gates.

Rich Griffith
Myrtle Beach, S.C.
richg@ntrnet.net

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CHUNK OF CHANGE

Banks' multiyear IT spending on year 2000 compliance

[redacted]	[redacted]M
[redacted]	$300M
[redacted]HATTAN	$250M
[redacted]N	$250M
[redacted]TRUST	$200M
[redacted]FINANCIAL	$140M
[redacted]EST	$125M
[redacted]NSBANK	$120M
[redacted] CHICAGO	$110M

Sources: UBS Securities, Inc., New York; The Tower Group, Newton, Mass.

Under pressure

Two-thirds of U.S. office workers cited workload as the greatest cause of stress in the workplace, according to a study released this month by Kensington Technology Group, Inc. in San Mateo, Calif. In addition, 56% of the 350 workers who responded to the survey cited managing the balance of work and private lives as a key stressor.

Twice the outsourcing

The European information technology outsourcing market is expected to double during the next six years, driven in part by government spending cuts required to qualify for the Economic and Monetary Union, according to a new report from Frost & Sullivan, Inc., a research firm in Mountain View, Calif. Europe's IT outsourcing market, valued at $20.4 billion this year by Frost & Sullivan, also is being fueled by European entities readying systems for the new currency and preparing for the year 2000.

Million check-in

Beijing Capital International Airport, China's largest airport, has signed a $2.4 million [illegible] to install [illegible]

HMO: Payment upon success

▸ *Fixed-price contracts and tracking system to help Oxford cut costs*

By Thomas Hoffman

HEALTH MAINTENANCE organization Oxford Health Plans, Inc. may have found a way to cut its health care costs by another 15%: Get doctors to agree to fixed-price contracts for whole procedures, such as replacing hips and delivering babies, instead of billing for each step of the procedure.

Oxford Health Plans' Pat Marafiote says final payments aren't released "until we've received a successful post operative report"

To make that "bundling" business model work, Oxford last year created a subsidiary called Oxford Specialty Management and a $6 million specialty tracking system called Spectra.

SPECTRA SYSTEM

The system, developed for Oxford by Denver-based systems integrator Tanning Technology Corp., allows member physicians and Oxford to track the progression of a patient's case before releasing periodic payments to doctors.

Under Oxford Specialty's model, physician groups would agree to a fixed price to handle all phases of a cataract operation or a pregnancy — including X rays, follow-up exams and hospitalization.

It would be up to the doctors to negotiate and subcontract with hospitals.

Because the HMO tracks patient satisfaction with the 1,000 physician groups that have signed up for the service, expectant mothers or hip-replacement candidates can check with Oxford Specialty before choosing a doctor to see how physician groups rank in terms of length of hospitalization or average length of recovery.

Spectra, a multitiered transaction processing system based on Sun Microsystems, Inc.'s symmetrical multiprocessing clusters, contains middleware called Periodic Interim Payment Tracker. It determines whether physicians have met all required milestones before periodic payments are made.

Final payments aren't released to payers "until we've received a successful postoperative report," said Pat Marafiote, director of business technology at Oxford Specialty, which, like

HMO, page 42

Nielsen rewires to keep TV data flowing

By Stewart Deck

WHEN THE Cable Television Advertising Bureau last month proudly boasted that basic cable networks outpolled the NBC, ABC, CBS and Fox networks combined in number of viewers, ratings and audience share, Nielsen Media Research in New York was there with the numbers to prove the point.

At the heart of those viewership numbers is Nielsen's data collection center in Dunedin, Fla. More than 25,000 households across the U.S. are connected to this center via television set-top boxes that measure what each house views minute-by-minute.

Data that details when the TV was turned on, who watched which channels and when they changed channels is all collected during the evening. Then in the middle of the night, each of those set-top boxes dials up the Nielsen center and downloads the data.

The center processes approximately 10 million viewing minutes each day and prepares daily reports — about 4T bytes' worth — for Nielsen's television programming and advertising clients.

Last winter, the network [illegible] to run out [illegible] with processing 4T bytes of data daily.

"We can tell you anything from how many people in the U.S. were watching ABC last night to how many Hispanic viewers under 35 in Los Angeles were watching the Lakers at 8 p.m.," said John Booth, Nielsen Media's manager of data networks.

To chew through that data, Nielsen was using a Fiber Distributed Data Interface (FDDI) network backbone that connected 80 Sun Microsystems, Inc. servers in its data center that

Nielsen, page 42

Clinton's Y2K charge criticized

By Matt Hamblen

AFTER MONTHS of pleading with President Clinton to deliver a speech urging companies to get ready for year 2000, many analysts and observers found his recent address a welcome change. Mostly.

Clinton won praise for planning to introduce "Good Samaritan" legislation that would protect companies from liability for sharing information about year 2000 fixes [CW, July 20]. The bill's language was still being drafted at press time last week, so the actual protections and requirements remained uncertain.

Clinton said he was challenging business "to take responsibility to accurately and fully tell your customers how you're doing and what you're doing. . . . The proposed Good Samaritan law will give companies the confidence they need to ensure that they keep their customers informed."

But some critics slammed the proposal for missing the point. They questioned how Clinton, or a regulatory body such as the Securities and Exchange Commission (SEC), can force a company that is behind on year 2000 fixes to fess up to the public or its trading partners.

Furthermore, many analysts suspect that a publicly traded company could try to hide problems to avoid a slide in its stock even if protected from lawsuits. "That [market motive] may be

Clinton's, page 42

Report: U.S. focus on IT too 'near-term'

An overly near-term focus by industry and government researchers, insufficient federal spending on information technology research and the lack of federal coordination for IT research outside the military are all problems that could jeopardize U.S. leadership in IT, according to an unreleased draft of a presidential advisory committee report obtained by IDG News Service. The final report could be issued any day.

Overall, the committee

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Corporate Strategies

Case Studies • Trends • Outsourcing

Briefs

CHUNK OF CHANGE

Banks' multiyear IT spending on year 2000 compliance

CITIBANK	$600M
BANKAMERICA	$300M
CHASE MANHATTAN	$250M
J.P. MORGAN	$250M
BANKERS TRUST	$200M
FLEET FINANCIAL	$140M
NORWEST	$125M
NATIONSBANK	$120M
FIRST CHICAGO	$110M

Sources: UBS Securities, Inc., New York; The Tower Group, Newton, Mass.

Under pressure

Two-thirds of U.S. office workers cited workload as the greatest cause of stress in the workplace, according to a study released this month by Kensington Technology Group, Inc. in San Mateo, Calif. In addition, 56% of the 351 workers who responded to the survey cited managing the balance of work and private lives as a key stressor.

Twice the outsourcing

The European information technology outsourcing market is expected to double during the next six years, driven in part by government spending cuts required to qualify for the Economic and Monetary Union, according to a new report from Frost & Sullivan, Inc., a research firm in Mountain View, Calif. Europe's IT outsourcing market, valued at $30.4 billion this year by Frost & Sullivan, also is being fueled by European entities readying systems for the euro currency and preparing for the year 2000.

Airline check-in

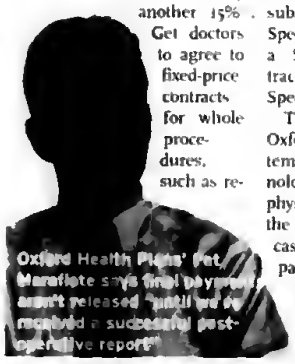
Beijing Capital International Airport, China's largest airport, has signed a $4.4 million contract to install Blue Bell, Pa.-based Unisys Corp.'s Airport Passenger Processing System. After an expansion project in October 1999, the airport is expected to handle 10,000 passengers per hour.

HMO: Payment upon success

▸ *Fixed-price contracts and tracking system to help Oxford cut costs*

By Thomas Hoffman

HEALTH MAINTENANCE organization Oxford Health Plans, Inc. may have found a way to cut its health care costs by another 15%.



Oxford Health Plans' Pat Marafiote says final payments aren't released "until we've received a successful post-operative report."

Get doctors to agree to fixed-price contracts for whole procedures, such as replacing hips and delivering babies, instead of billing for each step of the procedure.

To make that "bundling" business model work, Oxford last year created a subsidiary called Oxford Specialty Management and a $6 million specialty tracking system called Spectra.

SPECTRA SYSTEM
Tracks patient cases before making payments

The system, developed for Oxford by Denver-based systems integrator Tanning Technology Corp., allows member physicians and Oxford to track the progression of a patient's case before releasing periodic payments to doctors.

Under Oxford Specialty's model, physician groups would agree to a fixed price to handle all phases of a cataract operation or a pregnancy — including X-rays, follow-up exams and hospitalization.

It would be up to the doctors to negotiate and subcontract with hospitals.

Because the HMO tracks patient satisfaction with the 1,000 physician groups that have signed up for the service, expectant mothers or hip-replacement candidates can check with Oxford Specialty before choosing a doctor to see how physician groups rank in terms of length of hospitalization or average length of recovery.

Spectra, a multitiered transaction processing system based on Sun Microsystems, Inc.'s symmetrical multiprocessing clusters, contains middleware called Periodic Interim Payment Tracker. It determines whether physicians have met all required milestones before periodic payments are made.

Final payments aren't released to payers "until we've received a successful postoperative report," said Pat Marafiote, director of business technology at Oxford Specialty, which, like

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Nielsen rewires to keep TV data flowing

By Stewart Deck

WHEN THE Cable Television Advertising Bureau last month proudly boasted that basic cable networks outpolled the NBC, ABC, CBS and Fox networks combined in number of viewers, ratings and audience share, Nielsen Media Research in New York was there with the numbers to prove the point.

At the heart of those viewership numbers is Nielsen's data collection center in Dunedin, Fla. More than 25,000 households across the U.S. are connected to this center via television set-top boxes that measure what each house views minute-by-minute.

Last winter the network started to run out of bandwidth, processing 4T bytes of data daily

Data that details when the TV was turned on, who watched which channels and when they changed channels is all collected during the evening. Then in the middle of the night, each of those set-top boxes dials up the Nielsen center and downloads the data.

The center processes approximately 10 million viewing minutes each day and prepares daily reports — about 4T bytes' worth — for Nielsen's television programming and advertising clients.

"We can tell you anything from how many people in the U.S. were watching ABC last night to how many Hispanic viewers under 35 in Los Angeles were watching the Lakers at 8 p.m.," said John Booth, Nielsen Media's manager of data networks.

To chew through that data, Nielsen was using a Fiber Distributed Data Interface (FDDI) network backbone that connected 80 Sun Microsystems, Inc. servers in its data center that

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Clinton's Y2K charge criticized

By Matt Hamblen

AFTER MONTHS of pleading with President Clinton to deliver a speech urging companies to get ready for year 2000, many analysts and observers found his recent address a welcome change. Mostly.

Clinton won praise for planning to introduce "Good Samaritan" legislation that would protect companies from liability for sharing information about year 2000 fixes [CW, July 20]. The bill's language was still being drafted at press time last week, so the actual protections and requirements remained uncertain.

Clinton said he was challenging business "to take responsibility to accurately and fully tell your customers how you're doing and what you're doing. . . . The proposed Good Samaritan law will give companies the confidence they need to ensure that they keep their customers informed."

But some critics slammed the proposal for missing the point. They questioned how Clinton, or a regulatory body such as the Securities and Exchange Commission (SEC), can force a company that is behind on year 2000 fixes to less up to the public or its trading partners.

Furthermore, many analysts suspect that a publicly traded company could try to hide problems to avoid a slide in its stock even if protected from lawsuits. "That [market motive] may be

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Report: U.S. focus on IT too 'near-term'

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Overall, the committee

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Nielsen

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run data warehousing applications from Red Brick Systems, Inc. in Los Gatos, Calif.

Booth said he knew last winter that the network was starting to feel the strain of its heavy data load — it was running out of bandwidth and the system's shared media connections were overworked. "We needed to increase capacity and provide flexibility to scale the network to support more traffic," Booth recalled.

"With the amount of data we process, we have to make sure we have what we need to run a 24-hour, seven-days-a-week operation."

– John Booth, Nielsen Media

Lots of users are starting to face that same dilemma, said Michelle Rae McLean, an analyst at Meta Group, Inc. in Burlingame, Calif. "People are taking the network one piece at a time," McLean said, and one of the first things they're doing is replacing FDDI-connected routers with Layer 3 switches.

Layer 3 builds high-speed routing into LAN switches and increases network performance because it cuts the number of devices through which data has to travel.

The switches also cost less than high-end routers.

BUSTING BOTTLENECKS

Booth is now in the process of upgrading the Nielsen Media network, starting with Layer 3 routing switches from Bay Networks, Inc. to provide 1G bit/sec. Gigabit Ethernet technology on its network backbone in order to unclog some of the data bottlenecks. The company plans to keep its server farm intact.

"With the amount of data we process, we have to make sure we have what we need to run a 24-hour, seven-days-a-week operation," Booth said.

McLean said the simplicity of Layer 3 is a comfort to users. "The fact that these switches are so unrevolutionary has so much to do with their success. You don't change design or the way the network runs.

"On the whole, what routing switches do is get you away from proprietary schemes to avoid routing and enable you to get the bandwidth you need," he said. □

Clinton's Y2K charge

CONTINUED FROM PAGE 41

another impediment to keep a publicly traded company from fully disclosing their readiness," said Don Gilbert, senior vice president for information technology at the National Retail Federation in Washington.

SEC officials are finalizing a plan to increase disclosures about the material impact of year 2000, which follows SEC Commissioner Laura Unger's congressional testimony in June that the reports don't provide investors the information they needed. That report is due early next month but already may be too late to make much of a difference, said U.S. Rep. John Dingell (D-Mich.).

Analysts are eager to see what the SEC requires companies to disclose and what the penalty will be if they don't.

John A. Koskinen, chairman of the President's Year 2000 Conversion Council, said the proposed Good Samaritan bill "will clearly state" that disclosures to the SEC or other federal agencies aren't affected by the bill. That means a company still will be liable for whatever it says in its SEC disclosures.

The issue of liability has produced a long-running dispute between Clinton and congressional Republicans, and the Good Samaritan bill provided another occasion for that dispute to air.

U.S. Rep. David Dreier (R-Calif.) dubbed the Clinton plan "a popgun response" from the "trial-lawyer-dependent Clinton administration," adding that it doesn't go far enough to help companies get year 2000-compliant. Republicans have long criticized Clinton for the support he has gotten from trial lawyers, while Clinton has responded that Republicans often try to reduce the ability of citizens to sue businesses that are negligent.

Dreier joined U.S. Rep. Christopher Cox (R-Calif.) two weeks ago in introducing the Y2K Liability and Anti-Trust Reform Act, which proposes to limit damages related to year 2000 failures to actual business losses incurred by customers of companies that take reasonable steps to beat the glitch. □

HMO's strategy: Payment upon success

CONTINUED FROM PAGE 41

its parent, is based in Norwalk, Conn.

Marafiote said Oxford Specialty is negotiating to offer the same service to other health care insurers besides Oxford Health Plans, though he declined to name them.

ONE PRICE

By fixing the price of contracts, physicians would be discouraged from ordering ancillary tests, such as a second ultrasound test for a pregnant woman if only one was needed, said Greg Kuzma, actuarial director at Oxford Health Plans.

One physician, already dissatisfied with Oxford's well-publicized payment delays, said he is skeptical of the bundled pricing approach.

"We've already taken a 50% [payment] cut for vaginal deliveries from Oxford," said Dr. James A. Shanahan, an obstetrician at Community OB/GYN in Warwick, N.Y.

"The problem is that if we agree to a cut rate for a patient and take care of them for nine months, we might not be paid six months after submitting our bill," Shanahan said.

Marafiote said the logic models used to track milestones in the Spectra system were designed to tag each file and speed payments to payers and ultimately physicians.

Oxford's fixed-price contracts would discourage physicians from ordering ancillary tests

And Shanahan did acknowledge that his office has witnessed a "slight" improvement in Oxford's payment turnaround.

Marafiote said the biggest project challenges the company faced included interfacing Spectra with Oxford's claims processing system and anticipating "permutations" such as when member physician groups subcontract services outside the core care team.

Whether Oxford Specialty's model will catch on with other health care insurers "is a tricky proposition," said Greg Crawford, a managed-care analyst at Fox-Pitt, Kelton, Inc., an investment bank in New York.

"It's more likely that larger competitors would copy them and not put money in [Oxford's] pockets," he said. □

Report: U.S. IT focus too 'near-term'

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found that total federal U.S. investment in IT research and development, while steady, "has not kept pace with IT's growing economic, strategic and societal importance to the nation." In addition, research and development investment by both the U.S. government and private sector is "excessively focused on near-term problems," the report said. The committee criticized the movement of research and development spending in recent years to applied research tailored to bringing products to market in the near term and away from basic research, which takes a longer-term view, the report said.

The report singled out the Defense Advanced Research Projects Agency (DARPA), which helped germinate the Internet and funded much innovative research into the 1980s. Now, however, the agency "judges all information technology funding in terms of its impact on the war-fighter," the report said, and no other agency has taken on DARPA's former role.

Thus, the committee recommended that the government create a new agency within the U.S. National Science Foundation to manage overall IT research and development funding, according to the draft.

Among the report's key recommendations are the following:

Software

- Make fundamental software research an absolute priority.
- Fund more fundamental research in software development methods and component technologies.
- Sponsor a national library of software components.
- Make software research a substantive component of every major IT research initiative.
- Support fundamental research in human-computer interfaces and interaction.

Information infrastructure

- Increase funding in research and development of core software and communications technologies to scale up the information infrastructure.
- Expand the Next Generation Internet test beds to include industry partnerships to help rapidly commercialize and deploy enabling technologies.

High-end computing

- Fund research into innovative computing technologies and architectures.
- Fund research and development on improving the performance of high-end computing.
- Drive high-end computing research by establishing the goal of attaining sustained petaflops on real applications by 2010. (A petaflop is 1,000 trillion floating-point operations per second, or 1,000 teraflops.)
- Fund the acquisition of the most powerful high-end computing systems to support science and engineering research.
- Expand the Federal High End Computing and Computation program to include all of the major elements of the U.S. government's investment in high-end computing.

The committee is co-chaired by Bill Joy, co-founder of Sun Microsystems, Inc., and Ken Kennedy, director of the Center for Research on Parallel Computation at Rice University in Houston.

— Rob Guth, IDG News Service

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Briefs

OFFICE VOYEURS

Organizations that discovered employees accessing sexually explicit sites from work:
1998: 62% 1997: 72%

Organizations that took action against employees for inappropriate Web usage: 27%

Companies with an acceptable Internet usage policy in place or planning to implement one: 93%

Base: Survey of 110 U.S. organizations
Source: Elron Software, Inc., Cambridge, Mass.

Macy's revamps site

▸ *Will similar retailers join the parade? So far, it's mostly discounters*

By Sharon Machlis

IN A MOVE being watched throughout the retail industry, Federated Department Stores, Inc. has launched what may be the first World Wide Web commerce subsidiary of any major department store, Macys.Com.

"This is the 'shot heard 'round the world' for a lot of the other department stores," said Kate Delhagen, an analyst at Forrester Research, Inc. in Cambridge, Mass.

Federated appears to be the first retailer to devote an entire stand-alone division to electronic commerce.

JC Penney Co. and a few other similar retailers have moved onto the Web, but there hasn't been a major push akin to what some booksellers or clothing catalogers have done to promote Internet retailing. Among general retailers, there has been more activity in the discount space — Wal-Mart Stores, Inc. and Kmart Corp. have put up

Macy's, page 46

Pick a car, name your price

By Bob Wallace

IT COULD BE a car buyer's dream.

Name the model and price of the new car or truck and let the Internet take care of the dreaded price-haggling process.

Priceline.com LLC's newest service does just that. The company that brought you "name-your-own-price" airline tickets now takes the price a car buyer has named and searches for dealers willing to sell the consumer the vehicle for that figure or to present a counteroffer.

Pick a car, page 46

Priceline.com now handles new cars as well as airline tickets

• Advertorial E-mail

Marketers strike gold in ad medium

By Elisabeth Horwitt

ROBERT H. REID recently received a special E-mail offer for lift tickets to a ski resort in Lake Tahoe, just a week or two before a planned ski trip to that area. "That was a great experience," said Reid, a venture capitalist and author. Of course, the resort got his business, so the advertiser was happy, too.

Yet far from being Web junk mail, the Lake Tahoe offer was just the latest in a series of promotions Reid had agreed to check out when he signed up with BonusMail, one of a growing number of programs that reward consumers for agreeing to look at advertorial E-mail. Reid receives credit toward merchandise and services every time he opens a promotion and additional credit if he responds, even if the answer is no.

Called permission- or incentive-based advertising, it is allowing World Wide Web advertisers to gain and hold consumers' attention without getting their backs up. In the longer term, it will let them form ongoing, one-on-one relationships with consumers that wall out competitors.

On a more immediate level, incentive-based advertising generates far better response rates

Marketers, page 46

VisualAge for Java in beta with updates

By Carol Sliwa

IBM'S UPDATED VisualAge for Java tool, released last week in beta form, promises to boost performance, ease legacy connectivity and give developers more options for building enterprise-scale applications.

Long a nagging concern, performance is expected to improve, thanks to a new compiler that will optimize the Java code to run on specific server platforms, including Windows NT and IBM's AIX, OS/2, OS/400 and OS/390.

"This sort of takes Java into the realm of C and C++ and other compiled languages, where it can really compete on a level playing field," said Jonathan Clay, chief technologist at Cambridge, Mass.-based Nevo Technologies, Inc., which has been using IBM's tool in developing a major Java application for Harvard University.

The new tool features Enterprise Access Builders, designed to help developers connect World Wide Web clients to legacy data using various middleware options, including IBM's CICS and TXSeries and SAP AG's R/3. While developers wait for Enterprise JavaBeans implementations, the Enterprise Access Builders provide an "elegant architectural construct" as an alternative, said Steve Hendrick, an analyst at International Data Corp. in Framingham, Mass.

A new compiler will optimize Java code to run on specific server platforms.

"If you want to connect with legacy environments, many tools require you to write middleware and code sockets," Hendrick said. "That is not a good use of a programmer's time."

One of the key features that encouraged Home Depot, Inc. to check out the new tool is its

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Marketers strike gold

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than the average banner ad.

Just ask Judy Carson, senior manager of marketing and merchandising at Sportsline USA, Inc. in Fort Lauderdale, Fla. The company just got an "incredible" 20% response rate when it used BonusMail, which is sponsored by San Francisco advertising company Intellipost Corp., to promote a free trial membership of its online sports news service, *www.cbs.sportsline.com*. That's compared with a typical 2% response rate for traditional direct marketing campaigns such as banner ads, she said.

GUARANTEED LOOK

What do Web advertisers get from BonusMail that they can't get from banner ads? First and foremost, they get a database of about 300,000 qualified consumers who have agreed up front to give promotions at least a cursory look rather than trashing them as spam.

Even better, most BonusMail consumer members agree to fill out a questionnaire when they first sign up. The questionnaire elicits all kinds of juicy demographics on which Intellipost then performs simple queries for sending out targeted ads. Intellipost also generates demographic reports for advertising partners. For example, the Lake Tahoe resort sent Reid a promotion because it knew he lives in California and likes to ski.

This type of customer information differs from what's available from other means on the Web. Cookies and Web site access logs enable merchants to track consumer behavior or tailor a dynamic Web page to a customer on the next visit, but they don't kick in until a consumer is already on the site. Incentive-based ads get the customer there to start with, and collect more information — all provided voluntarily.

MORE ONLINE

www.computerworld.com/commerce

For an expanded version of this story, visit commerce, Computerworld's electronic commerce webzine, updated biweekly.

Getting Web users to give out personal information is key and involves a variety of incentives. BonusMail offers merchandise credit; Netcentives, Inc. in San Francisco offers frequent-flier miles; and CyberGold, Inc. in Berkeley, Calif., pays users in cash for answering surveys or responding to ads. Yoyodyne Entertainment, Inc. in Irvington, N.Y., pioneered the use of sweepstakes and contests — consumers win prizes or the chance to win grand prizes by clicking on the URLs of sponsors and answering personal questions.

The early returns from such programs are impressive. About 500,000 consumers have opened CyberGold accounts, which they fill with cash incentives that can be transferred to credit-card or bank accounts. Netcentives expects to have 750,000 members by year's end. Program participants such as N2K, Inc.'s Music Boulevard and 1-800-Flowers, Inc. have achieved conversion rates of 18% and seen purchases rise 20%, Netcentives reported.

Of course, accurate targeting is essential, both for the advertisers and for the long-term success of incentive programs. "A 2% success rate is impressive with direct mail, but if CyberGold sends me two to three [promotional] E-mails a week and only one out of 50 meets my needs, I'm likely to bail out of the program," Reid said.

Privacy guarantees are key, too. Sportsline, for instance, is trying to win consumers' trust by assuring them in a formal on-site policy statement that it will never rent, sell or otherwise misuse the personal information it collects. Yoyodyne is signing up to have its policy statements certified by consumer watchdog organizations such as the Better Business Bureau and Truste.

Perhaps that's one reason Seth Godin, president and CEO of the permission-based Web advertising company, said, "We have a 97% retention rate from the beginning to the end of our promotions and a 36% response rate." That means that 36% of consumers who get follow-up E-mail write back. □

Horwitt is a freelance writer in Newton, Mass.

Macy's

CONTINUED FROM PAGE 45

online shopping sites — than among upscale department stores.

Macys.Com's 20 to 30 employees are working to revamp the existing Macy's site, which was launched as a test project in late 1996. Corporate investment in the site will be "many, many millions of dollars," and profits are expected within 18 to 24 months, said Kent Anderson, president of the San Francisco-based Macys.Com division.

Macys.Com is working with IBM to develop the new site, which is slated to debut in October for the holiday shopping season.

Anderson said he believes that the Web site, if properly designed, can add to store sales by reaching younger customers, encouraging store shoppers to buy from the convenience of their homes and moving Macy's into markets where it has no brick-and-mortar stores.

"The upside is this is an exciting new retail format that has the ability to transform [our] brand," Anderson said.

MORE CUSTOMIZATION

A Web site can also offer personalized service that would be difficult to provide in a physical store, Anderson said. For example, the site could ask registered users for dates of relatives' birthdays and anniversaries and then send gift suggestions via E-mail. The suggestions would be based on the users' stated preferences for categories and price as well as past purchases.

Anderson said he expects Web selling to transform retailers' relationships with suppliers as well. Now, a store's marketers decide how to promote products. On the Web, he said, he expects to work directly with merchandise suppliers to determine how to present products on the site. In addition, Anderson said he foresees a time when some electronic orders could be filled directly from the manufacturer instead of from the retailer's warehouses.

DEFENDING TURF

Anderson acknowledged that Macys.Com is a defensive maneuver against other Internet retailers as well as a venture to increase revenue. "To stand by and say this won't affect you is, I think, an incorrect strategy," he said. "This allows us to defend our current sales, our current market position."

The new Macys.Com site initially will feature 250,000 merchandise items. That's far more than the existing site but substantially fewer than the a million or 3 million items a regular store might have. Anderson said more items will be added in the future, but site designers must first figure out how to present massive amounts of merchandise in a format that Web surfers can browse and search easily.

Delhagen said Internet shoppers might be ready to look for department store names on the Web. "Some consumers are tired of nickel-and-diming their way across the Web," she said. "It's a good move. I think it's absolutely the right time." □

Pick a car, name your price – all online

CONTINUED FROM PAGE 45

"Priceline turns the car-buying process upside down [because it] takes advantage of the Web's capabilities by letting the buyer name the price and inviting dealers to take it or leave it," said Gary Arlen, president of Arlen Communications, Inc., a Bethesda, Md., research firm that specializes in electronic media. Priceline.com's system differs from services offered by Auto-By-Tel and Microsoft Corp. that refer the buyer to a limited group of participating dealers that have a set price, he added.

The 100-employee Stamford, Conn.-based company's World Wide Web vehicle service is regional so far, covering New York, New Jersey and Connecticut. But it is slated to go national by year's end.

The service isn't for tire-kickers: There is a $200 penalty for consumers who don't buy a vehicle after their offer is accepted by a dealer.

And although the service eliminates haggling, car and truck buyers have to arrange financing on their own and negotiate with dealers on trade-ins.

DEALERS LIKE IT, TOO

Consumers aren't the only ones who stand to gain.

"It makes things easier for both parties by providing a price from a buyer that we can meet, not meet or counter," said Paul Sullivan, president of Sullivan Chevrolet in Roselle Park, N.J. "I think it will succeed because it's a great way to do business. I don't see any negatives to it." Sullivan has received only one inquiry so far. He chalks that up to a lack of vehicles caused by the General Motors Corp. strike. The dealership didn't have the car requested in stock.

Here's how Priceline.com's car-buying service works: A consumer visits the Priceline.com site and fills out a Priceline Vehicle Request that specifies the exact make and model of the vehicle he wants to purchase, including colors and options. He also states the price he is willing to pay, the date the car must be available and how far he is willing to travel to pick up the car from a factory-authorized dealer.

To help buyers submit requests that are reasonable, Priceline.com's Web site displays both the manufacturer's suggested retail price and the dealer invoice price for vehicles.

Once the customer submits a vehicle request, Priceline.com faxes it to every dealer within the buyer's specified area, seeking a dealer that will agree to the customer's price.

Priceline.com doesn't give the buyer's name to car salespeople during the process.

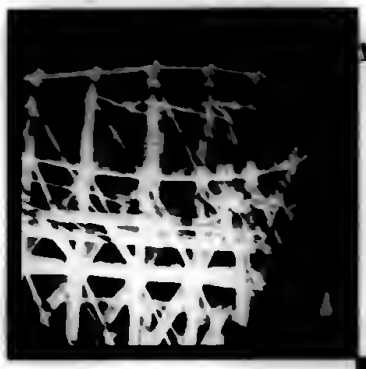
Upon receipt of a Priceline Vehicle Request, a dealer has two choices. He can accept the customer's price and commit in writing to sell the car, or if he has a similar vehicle or the same car at a different price, he can fax a nonbinding counteroffer to Priceline.com, which E-mails it to the customer.

After a dealer agrees to the customer's price, the buyer receives an E-mail purchase confirmation from Priceline.com stating the price, make, model, options and vehicle identification number.

Once the sale is complete, the customer pays $25 for the service, which is charged to his credit card. The dealer pays Priceline.com $75.

A spokesman said the company can make money at $100 per vehicle but wouldn't discuss sales goals. To launch this latest service, the company only needed to add application servers and a fax distribution system. □

COMPUTERWORLD



Where does infrastructure end

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and business begin?

This isn't a trick question. Ideally, the IT infrastructure—data, systems, applications—should support even the most daring business initiatives from start to finish. Realistically, though, the infrastructure can also derail them. And ultimately, you're responsible. We understand just how daunting this position can be. So we provide the most comprehensive portfolio of products and services to manage and improve your IT infrastructure—from database and systems management to data warehousing, decision support, application lifecycle and Year 2000—all with a lot less risk. Because when you can spend less time looking back over your shoulder, you stay more focused on what's coming up ahead... where your business really begins. Why not start right now, right here? www.platinum.com/shine

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PLATINUM TECHNOLOGY

Teens master Web design, help with labor shortage

By Barb Cole-Gomolski

A LOT OF chief information officers blame the shortage of qualified IS professionals on the U.S. educational system, at least in part. High schools and even colleges are turning out graduates who don't have the skills necessary to fill IS jobs, CIOs will tell you.

But don't tell that to Ceil Jensen. A teacher of art and history at Rochester Adams High School in Rochester Hills, Mich., Jensen has been training students to design and build World Wide Web sites for the past two years in a program called The WebMaster School. Earlier this month, Jensen and about 15 students endured a 10-hour roundtrip bus ride to attend Web Fair '98 in Chicago, sponsored by the National Association of Webmasters, a trade group in Folsom, Calif. Web Fair gave most on board their first big dose of the computer industry.

With money she received through a grant, Jensen built a computer lab and designed a curriculum that lets businesses work closely with high schools to solve their IS labor woes. The program also provides a webmaster training plan that some companies may want to follow. The WebMaster School maintains a home page at *www.rochester-hills.com*.

SKILLS IN DEMAND

"The curriculum of Rochester Adams High School's WebMaster School is consistent with our research as to the skills that employers are requesting of Web workers today," said Bill Cullifer, executive director of the National Association of Webmasters. He said the program helps students develop skills that are in demand through its focus on technical know-how, content management and business management.

Students who finish the two-semester webmaster program at Rochester Adams learn how to design Web pages using tools such as San Jose, Calif.-based Adobe Systems, Inc.'s Photoshop; build sites with products such as Microsoft Corp.'s FrontPage; and sell their development services to real clients, including General Motors Corp. and local small businesses. Clients donate $500 for the students' services, and the money is used to upgrade the computer equipment and make donations to charities.

Kendra Waldrep, 17, said the webmaster course pushed her in the right direction. "For a long time I wanted to go into education and be a teacher," she said. But when she took the course, "the whole computer world opened up for me," said Waldrep, who designed a Web site for The Sanctuary, a local shelter for runaway teens.

Jonathan Green, 16, wasn't enrolled in The WebMaster School, but he became a common fixture, swinging by after school to work in the lab. "I knew I loved computers, but I never really thought I could make a living at it," he said. This summer, Green is doing freelance Web site development and working as an intern at a local high-tech company.

For Michael Coury, 16, who will be taking the webmaster courses this fall, the program's attraction is that it offers a place to learn the technical aspects of Web authoring as well as to gain real-world business experience. "Fortunately, the companies [who hire us] are willing to give us a chance, put up with our mistakes and let us wet our feet in the real world," Coury said.

Jensen and her students stumbled into Web site development. The original plan was to sell T-shirts online. Much to their surprise, "We didn't sell one T-shirt, but we found out that people were interested in buying our Web-page design service," said the 26-year teaching veteran.

Pointing out that there are now 100 alumni of The WebMaster School and, consequently, a growing crop of Web designers available for summer work in the Rochester Hills area, Jensen said, "There's nothing wrong with working at McDonald's, but you can get paid a lot more for building a Web site." □

VisualAge

CONTINUED FROM PAGE 45

ability to let developers debug an object from a remote machine, said Mike Anderson, vice president of technology at Home Depot in Atlanta. "That's a great productivity tool," Anderson noted.

MORE FEATURES

Other new features in the second version of IBM's VisualAge for Java include the following:

- Data Access JavaBeans that help developers build applications to access Java Database Connectivity-enabled relational databases.
- Team programming support for managing large projects.
- An Open Tool Integrator application programming interface that will let developers integrate third-party tools.

Because Nevo Technologies takes a distributed object approach, the new tool's improved support for the Common Object Request Broker Architecture is also a big plus, Clay said.

A beta version of VisualAge for Java, Professional Edition, can be downloaded from IBM's Web site. The final release for the Windows and OS/2 platforms is expected later this quarter, with the AIX and OS/390 releases to follow in the fourth quarter. Pricing hasn't been announced. □

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Briefs

APP FORECAST

Network and systems management applications revenue forecast

* Projected

Source: Cahners In-Stat Group, Newton, Mass.

MANAGEMENT

Tools can prevent net upgrades

By Patrick Dryden

NETWORK MANAGERS AT chemical manufacturer Rohm & Haas Co. are beginning to see the payback from translating network traffic statistics to business-oriented information.

Like specialists in other IS organizations, these network managers turned to performance monitoring tools designed to give them a broader perspective. Such reports can help information systems managers understand complex interactions and explain their relevance to others.

For example, this kind of knowledge already has prevented a costly upgrade to the wide-area network for the $4 billion global corporation. Instead of scrutinizing one link at a time, capacity planners could examine overall traffic flow to make more efficient use of available capacity.

"We were in the dark before without clear statistics," said John Danos, a network engineer at Philadelphia-based Rohm & Haas.

The IS group had to defend itself constantly when users complained about network availability and application response time, members of the team said.

Preventing upgrades, page 54

Sun's plan needs buy-in

▸ *So users take wait-and-see on Java-based Jini*

By Sharon Gaudin and Kim Girard

SUN MICROSYSTEMS, INC. is on the trail of technology that will make spontaneous networks out of a tangle of computers, operating systems and peripherals (CW, July 20).

But Sun's plan isn't going to fly without the support of a wide variety of equipment makers. And some users, intrigued by the concept, aren't going to hold their breath until the OEMs come on board.

STEVE ROONE

Xerox's Teresa Light: Sun's network plan needs support

"I'd sure like to see that work since I have a lot of other things to do besides configure software," said Teresa Light, quality engineering manager at Xerox Corp. in Cleveland. "In theory, it sounds good, but you need a lot of companies in the market to come onboard to make it work. If they don't, this isn't going anywhere."

Two weeks ago, Sun announced its newest venture into the world of Java-based software. The Cupertino, Calif.-based company is touting its Jini software, now in beta, as a key to reducing administrative costs and dramatically changing the way people use their network.

Jini was designed to bypass the usual device-to-device connections in the corporate network. Sun hopes it will enable users to connect devices to the network without any configuration or integration with the operating system. A user should be able to plug in a scanner and have it be available immediately and spontaneously.

Mike Clary, Jini product manager at Sun, explained that spontaneous networking is supposed to work because Jini, a series of Java class libraries that sit on Java virtual machines, melds any other virtual machines on the network so they connect and communicate seamlessly and automatically.

Sun plans to license its Jini software code to peripheral and appliance vendors this fall. Those vendors would then Jini-enable their products, possibly by year's end. Without the vendors buying in to the premise, there will be nothing for corporate information systems managers to use.

"Do I think OEMs will be interested in this? Oh, absolutely," said Van Baker, an analyst at Dataquest in San Jose, Calif. "This would be a good opportunity for peripheral vendors. They'll be interested."

Sun said it already has 30 companies evaluating the software, which went into beta testing two weeks ago. Although Clary declined to spell out the company's plans, he said he expects Sun to sell products such as storage devices and servers embedded with Jini.

For example, telecommunications company Ericcson Corp. in Research Triangle Park, N.C., plans to embed Jini technology in its cellular phones so they can communicate more easily with other devices, such as computers.

Quantum Corp., a hard drive maker in Milpitas, Calif., plans to embed Jini in its disk drives and have products ready next year. And Seagate Software, Inc., a backup software company in San Luis Obispo, Calif., is evaluating Jini for use in future products. □

Former Spam King backs E-mail laws

By Roberta Fusaro

Even Sanford Wallace — a man once known as the Spam King — says there has to be some regulation to protect companies and consumers from unsolicited bulk E-mail.

The former bulk E-mailer said he would be happy to see the Federal Trade Commission (FTC) enforce existing laws regarding spam "since a lot of that mail contains what might be considered illegal material."

And it wouldn't be a bad thing to enact new legislation "that takes away the rights of those who send mail in an uninvited fashion," said Wallace, now a consultant to companies that have been victimized by spam.

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Breakthrough tool tackles PC testing via 'net

TalkBack captures error conditions during testing of Sabre's next reservation app

▸ *Traps details about activity*

By Patrick Dryden

VENDORS AND IN-HOUSE developers hope to improve the arduous task of testing client/server software with a breakthrough monitoring tool launched by start-up Full Circle Software, Inc. in Mountain View, Calif.

The TalkBack communications system enables an application to trap details about error conditions and user activity, then send them via an intranet or the Internet to a server for analysis.

That reporting aspect is a unique improvement

Tool, page 54

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Briefs

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BellSouth loses bid

BellSouth Corp. in Atlanta lost a bidding war for the Salvadoran telecommunications company Intel, which is undergoing privatization.

The regional Bell company bid $30 million for a majority share in Intel but was bested by a $40 million bid from Telefonica Internacional SA, a subsidiary of Grupo Telefonica SA in Spain. Intel will be the second operator in El Salvador and will compete with Telcel, the country's traditional operator.

Memco/Microsoft deal

Memco Software Ltd. in Redwood City, Calif., last week inked a pact with Microsoft Corp. that will let Memco manage the native security architecture of Windows NT from within its SeOS (Security for Open Systems) package.

SeOS for Windows NT thwarts attacks to NT servers and prevents security breaches associated with the Administrator account, a common target for hackers, Memco said in a statement.

New antivirus package

Symantec Corp. in Cupertino, Calif., last week released Norton AntiVirus for Microsoft Exchange Server. The package scans, detects and repairs viruses found in native Microsoft Exchange environments without impacting Exchange Server performance, the company said. It is available now and lists for $795 per server with 25 users. Site licenses are also available.

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Spam, page 54

Novell remote security freebie now for sale

By Laura DiDio

NOVELL, INC. has released a security package to help cut administration time and costs by centrally managing remote network access via Novell Directory Services (NDS).

Targeted at large and mid-size organizations, the Border Manager Authentication Service product is an enhanced version of the RADIUS for NDS package that Novell released as a free software download in June of last year. It costs $995 per NetWare server.

The software is based on the Remote Authentication Dial-In User Service, or RADIUS, protocol, which ensures interoperability with RADIUS-compliant devices from remote access vendors, Internet service providers and firewall vendors. It adds centralized auditing and accounting, which will help businesses cut administration time.

Ken Green, a senior network analyst at TeleGyr Systems, Inc., an energy management systems firm in San Jose, Calif., has used a beta version of the product since March. "We have about 100 remote users, and BorderManager Authentication saves me about two to three hours a week in administration time," Green said.

SteelBelted RADIUS, a package from Cambridge, Mass.-based Funk Software, Inc., has many of the same features. □

Tool

CONTINUED FROM PAGE 53

that "lets developers know what users are doing and how well their applications perform better than they could before with dump traces and debug tools," said Vernon Keenan, an analyst at Zona Research, Inc. in Redwood City, Calif.

TalkBack also offers "a significant opportunity to support key applications on TCP/IP networks by building an effective bridge to users," said Bill Keyworth, an analyst at Gartner Group, Inc. in Stamford, Conn.

At The Sabre Group, TalkBack already has shortened the time required to track down the cause of errors in the next version of a reservation application. The tool accurately recorded conditions such as memory usage at the time of the error, said Michael Sites, a vice president at the travel industry information systems organization in Fort Worth, Texas.

Travel agents testing Planet Sabre 2.0 write down what they can about their PC configuration and activity, but it isn't enough for developers to unravel a general protection fault, Sites said. By adding "just 100K bytes [of TalkBack] to our code, we set 20 triggers to capture accurate information," he said.

Beta testers of Communicator 4.5, released last week, will be able to automatically feed such data to product developers at Netscape Communications Corp. "Users can't provide the precision we need over the phone for us to manage the infinite number of configurations and situations," said Jim Hamerly, a vice president at Netscape in Mountain View, Calif.

By enabling the new version with TalkBack, developers can get immediate feedback to understand what affected a user and to study trends across a firm's beta-tester base, Hamerly said. Those early adopters said they expect to reduce their development cycle with TalkBack. But they may leave TalkBack code in their final applications to monitor performance.

"This could help us keep close to customers in 40,000 agencies by gathering comments as they run the [Sabre] application," Sites said. Besides collecting quantitative data, TalkBack offers a dialog box "so users can suggest features they need or request assistance with a task," he said.

TalkBack includes client code to compile in the target application and Windows NT-based server software to collect reports for analysis. A license costs $50,000 plus fees for each application and operator. □

Preventing upgrades

CONTINUED FROM PAGE 53

Lacking a performance profile, they could react only to each problem as an isolated situation, and they couldn't plan capacity based on history.

Initially, homegrown tools tracked router utilization and LAN activity at 70 sites on the WAN, computed basic performance data and displayed results on spreadsheets. But maintaining and improving those tools consumed lots of time and effort.

A more informative and cost-effective option, Danos said, was the Network Health suite of monitoring tools from Concord Communications, Inc. in Marlboro, Mass. Similar performance reporting products are available from vendors such as DeskTalk Systems, Inc. in Torrance, Calif.; Hewlett-Packard Co. in Palo Alto, Calif.; and International Network Services, Inc. in Sunnyvale, Calif.

Such tools are "vital not just to head off problems, but to demonstrate you're delivering business value from your expensive resources," said Mark Bouchard, an analyst at Meta Group, Inc. in Westport, Conn.

Troubleshooting frame-relay WAN connections is easier with Network Health reports "that show what happened in the last two days or two hours instead of weekly reports from our service provider," said Jim Jaworski, a network engineer at Rohm & Haas. "If the network is not up, we're not selling products."

Besides the immediate benefit of better diagnosis for IS operators and the business in general, the Network Health reports reveal patterns over time. For example, they profiled traffic loads for the first time between central servers and remote sites.

Rohm & Haas shrunk underutilized frame-relay circuits to service plants and offices in the Asia-Pacific region to save money, Jaworski said. And managers tuned WAN circuits to ensure more capacity for outbound rather than inbound traffic, yielding better performance for remote users while postponing bandwidth upgrades, Danos said.

Network managers can better defend their turf by demonstrating performance historically. Also, proactively providing these reports to other groups promises long-range business benefits.

For example, application developers who work on fast LANs are starting to learn how to adapt transaction processes to work better in the slower WAN environment, Danos said.

And business unit managers soon will be able to check reports posted on the company's intranet that focus on performance of their router instead of the entire network. "The advantage of the system is the comfort level. Everyone has one place to go for a performance perspective," Danos said. □

Spam

CONTINUED FROM PAGE 53

The FTC on July 14 released a list of the 12 most common scams found in unsolicited commercial E-mail [CW, July 20]. The "Dirty Dozen" include get-rich-quick offers and health and diet scams that offer "exclusive products" and "secret formulas" promoted by medical experts no one has ever heard of.

But you don't have to go into business with a spam plan to be affected by the practice, as one company found. Provo, Utah-based Morinda, Inc. sells juices and skin supplements made from a Polynesian plant called noni and has about 150,000 distributors — usually individuals who work from home — to move its product.

Morinda discourages E-mail marketing practices, but an Oregon man tried it to distribute information about the Morinda product. He ended up settling a lawsuit under Washington state's recently enacted antispam law.

Dan Hillstrom, a project manager at Morinda, said the company accepts no legal responsibility for those distributors who market the product through a World Wide Web site or via unsolicited E-mail, though the company tries to monitor existing Web sites.

In the fall, Morinda will provide cookie-cutter Web sites to distributors whose high sales volume calls for it. "We're definitely interested in complying with all regulations," Hillstrom said.

David Sorkin, a professor at the John Marshall School of Law in Chicago, said the FTC report's emphasis on the content of spam is misguided: the volume of messages matters more. And the flood of E-mail is a function of the cost-shifting involved with spam, he said.

A devious spammer can use a third-party relay site, while a more legitimate spammer can enter into a contract with an Internet service provider before the provider realizes the nature of the subscription. Either way, spammers aren't paying to send the mail — users are, Sorkin said.

John Mozena, a spokesman for the Coalition Against Unsolicited E-mail, an online advocacy group that opposes spam, said the FTC report underscores the need for strong antispam legislation.

And there has been more noise lately. Legislators coming up on an election year realize how widespread the problem has become and want to be considered "with it" and strong consumer advocates, Mozena said. Legislation is pending in Congress and in 12 states.

Former spammer Sanford Wallace: The FTC should enforce existing spam laws

Sorkin said more companies would use E-mail for marketing purposes if there weren't such a stigma around it, which ultimately means legislation alone won't help businesses. "Once the content is cleaned up, the false header information is regulated and the third-party relaying is under control, lots more businesses will go with E-mail," he said. Then the volume will only get worse, he said. □

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Software

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Briefs

Worldwide enterprise resource planning software market

*Projected
Source: The Yankee Group, Boston

Mapics, Synix team

Mapics, Inc., an Atlanta-based maker of manufacturing software, last week bought rights to use advanced planning and scheduling technology developed by Synix Systems, Inc. in Columbus, Ohio. The two companies plan to work together to upgrade the Synix software, and each will sell the product as part of its application suite for midsize companies. Mapics said it will start selling Synix's current software immediately and announce shipment plans for the upgraded version within 60 days.

Geac enhances suite

Geac Smallworld, the Atlanta-based applications software arm of Geac Computer Corp., this month announced plans to integrate [illegible] project management software from [illegible] into its suite of [illegible] applications, "Freedom," which [illegible] Geac [illegible] system with [illegible] as a Geac [illegible] [illegible]

Geocoding tools sliver market data

▸ *Geography plays role in eyeing buying patterns*

By Stewart Deck

SOMETIMES YOU can't see the trees for the forest. A database can look like a thicket of information, but some users, armed with some new data geocoding tools, are discovering geographic and demographic patterns in their data that let them make better use of what they see in front of them.

Knight-Ridder, Inc., a publisher of 31 newspapers nationwide, has started using geocoding tools for several reasons: to sharpen a variety of targeted direct marketing campaigns, to choose the proper retail outlets for its papers and even to pinpoint where to locate newspaper boxes on the street for higher sales.

"We're sitting on a gold mine of information," said Francey Smith, the director of Knight-Ridder's Database Marketing Resource Center in Miami. "By bringing the information down to the most finely targeted geographic unit, we can start to look at the marketplace as a series of individual markets rather than one amorphous market."

Previously, Knight-Ridder had random direct-marketing campaigns, according to Smith, with equally random results. "The narrower you can define your minimarket, the more effective and measurable your marketing programs can be," she said.

In a recent report, Mitchell Kramer, an analyst at Patricia Seybold Group in Boston, recommended that these types of geocoding tools be integrated into any data warehouse/mart at organizations that offer goods and services by geography.

BellSouth Corp., for one, publishes Yellow Pages directories for nine states in the South.

It has been compiling the

Geocoding tools, page 58

Bridging the object technology gap

By David Orenstein

EFFICIENT APPLICATION development increasingly means making competing object technologies work together — kind of like fitting square pegs into round holes.

A new generation of tools, called bridges, are making it easier than ever for developers to reconcile Microsoft Corp.'s Windows-oriented Component Object Model (COM) and the independent Common Object Request Broker Architecture (CORBA).

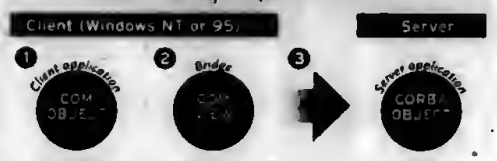
The automotive systems group at Johnson Controls, Inc. in Milwaukee had about 10 applications that needed sophisticated E-mail capabilities. Project manager Ravi Desai's team wasn't about to reinvent the wheel for each one running on a different operating system platform.

Instead, the developers at the maker of car seating, interiors and battery systems wanted to

Object technology, page 58

INCORPORATING OBJECTS

A COM/CORBA bridge lets users of Windows programs incorporate otherwise incompatible objects or components on remote and disparate servers



1. **Client:** Runs a client program such as Visual Basic, PowerBuilder or Delphi
2. **Bridge:** Uses an Object Management Group standard interface that translates COM object calls to CORBA object calls
3. **Internet InterOrb Protocol (IIOP):** Message protocol allows interaction with remote CORBA objects over the Internet or an intranet

Software that plays it by ear

▸ *Package aids those with reading disabilities*

By Laura DiDio

A SOFTWARE package offers the potential to level the playing field for business professionals and students with reading-related learning disabilities such as dyslexia.

The What You Need Now (WYNN) product aids in reading by letting users simultaneously view text and have it read aloud, increasing comprehension.

The National Institutes of Health in Bethesda, Md., estimates that 15% of the U.S. population — nearly 40 million people — suffers from learning disabilities. Those include reading and comprehension disabilities, such as dyslexia, which results from differences in the brain's structure and function.

WYNN, released last month, is the result of a four-year joint

Software, page 58

SSA rolls out Unix upgrades – for HP only

By Craig Stedman

APPLICATION VENDOR SSA has had trouble getting its Unix software out of first gear. But *some* users should finally see a pair of long-awaited power boosters this summer.

There is a catch, though: The Unix upgrades being readied by System Software Associates, Inc. (SSA) will run only on Hewlett-Packard Co.'s servers. The Chicago-based company, which still gets most of its sales from users of IBM's AS/400 systems, decided to develop for just one Unix platform as part of a cost-cutting program announced earlier this month (CW, July 13).

That creates a quandary for users who were planning to install the new versions of SSA's Business Process Control System (BPCS) software on Unix servers from IBM or the former Digital Equipment Corp.

Mike Durant, director of information services at Fort Wayne Plastics, Inc., has a beta-test copy of SSA's upcoming BPCS 6.0.4 release that he wants to put on an IBM

SSA, page 58

WHAT'S HAPPENING

Recent events at SSA include:

- $1.3M Q1 loss reported in February
- William Stuck takes over as CEO in April
- $9.4M Q2 loss reported in May
- Layoffs and research and development cutbacks announced this month

Software

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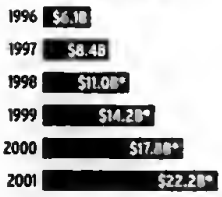
Briefs

Worldwide enterprise resource planning software market



*Projected
Source: The Yankee Group, Boston

Mapics, Symix team

Mapics, Inc., an Atlanta-based maker of manufacturing software, last week bought rights to use advanced planning and scheduling technology developed by Symix Systems, Inc. in Columbus, Ohio. The two companies plan to work together to upgrade the Symix software, and each will sell the product as part of its application suite for midsize companies. Mapics said it will start selling Symix'e current software immediately and announce shipment plans for the upgraded version within 60 days.

Geac enhances suite

Geac SmartStream, the Atlanta-based applications software arm of Geac Computer Corp., this month announced plane to integrate financial project management software from Proamics Corp. with its suite of financial applications. Proamics' ProActa, which automates time and expense entries and purchasing, is slated to become available as e Geac module early next year, the firms said.

Keane gains contract

Federal Home Loan Bank of Pittsburgh, which has $30 billion in assets, has hired Keane, Inc. to manage its year 2000 compliance activities through mid-1999. Boston-based Keane will manage several phases of year 2000 activities for infrastructure, end-user systems and service providers.

Geocoding tools sliver market data

▸ *Geography plays role in eyeing buying patterns*

By Stewart Deck

SOMETIMES YOU can't see the trees for the forest. A database can look like a thicket of information, but some users, armed with some new data geocoding tools, are discovering geographic and demographic patterns in their data that let them make better use of what they see in front of them.

Knight-Ridder, Inc., a publisher of 31 newspapers nationwide, has started using geocoding tools for several reasons: to sharpen a variety of targeted direct marketing campaigns, to choose the proper retail outlets for its papers and even to pinpoint where to locate newspaper boxes on the street for higher sales.

"We're sitting on a gold mine of information," said Francey Smith, the director of Knight-Ridder's Database Marketing Resource Center in Miami. "By bringing the information down to the most finely targeted geographic unit, we can start to look at the marketplace as a series of individual markets rather than one amorphous market."

Previously, Knight-Ridder had random direct-marketing campaigns, according to Smith, with equally random results. "The narrower you can define your minimarket, the more effective and measurable your marketing programs can be," she said.

> "We're sitting on a gold mine of information."
> – Francey Smith, Knight-Ridder

In a recent report, Mitchell Kramer, an analyst at Patricia Seybold Group in Boston, recommended that these types of geocoding tools be integrated into any data warehouse/mart at organizations that offer goods and services by geography.

BellSouth Corp., for one, publishes Yellow Pages directories for nine states in the South.

It has been compiling the

Geocoding tools, page 58

Bridging the object technology gap

By David Orenstein

EFFICIENT APPLICATION development increasingly means making competing object technologies work together — kind of like fitting square pegs into round holes.

A new generation of tools, called bridges, are making it easier than ever for developers to reconcile Microsoft Corp.'s Windows-oriented Component Object Model (COM) and the independent Common Object Request Broker Architecture (CORBA).

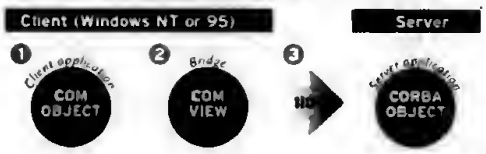
The automotive systems group at Johnson Controls, Inc. in Milwaukee had about 10 applications that needed sophisticated E-mail capabilities. Project manager Ravi Desai's team wasn't about to reinvent the wheel for each one running on a different operating system platform.

Instead, the developers at the maker of car seating, interiors and battery systems wanted to

Object technology, page 58

INCORPORATING OBJECTS

A COM/CORBA bridge lets users of Windows programs incorporate otherwise incompatible objects or components on remote and disparate servers



1. **Client:** Runs e client progrem such es Visual Basic, PowerBuilder or Delphi
2. **Bridge:** Uses en Object Menagement Group stenderd interface that translates COM object calls to CORBA object calls
3. **Internet InterOrb Protocol (IIOP):** Message protocol allows interaction with remote CORBA objects over the Internet or en Intranet

Software that plays it by ear

▸ *Package aids those with reading disabilities*

By Laura DiDio

A SOFTWARE package offers the potential to level the playing field for business professionals and students with reading-related learning disabilities such as dyslexia.

The What You Need Now (WYNN) product aids in reading by letting users simultaneously view text and have it read aloud, increasing comprehension.

The National Institutes of Health in Bethesda, Md., estimates that 15% of the U.S. population — nearly 40 million people — suffers from learning disabilities. Those include reading and comprehension disabilities, such as dyslexia, which results from differences in the brain's structure and function.

WYNN, released last month, is the result of a four-year joint

Software, page 58

SSA rolls out Unix upgrades – for HP only

By Craig Stedman

APPLICATION VENDOR SSA has had trouble getting its Unix software out of first gear. But *some* users should finally see a pair of long-awaited power boosters this summer.

There is a catch, though: The Unix upgrades being readied by System Software Associates, Inc. (SSA) will run only on Hewlett-Packard Co.'s servers. The Chicago-based company, which still gets most of its sales from users of IBM's AS/400 systems, decided to develop for just one Unix platform as part of a cost-cutting program announced earlier this month (CW, July 13).

That creates a quandary for users who were planning to install the new versions of SSA's Business Process Control System (BPCS) software on Unix servers from IBM or the former Digital Equipment Corp.

Mike Durant, director of information services at Fort Wayne Plastics, Inc., has a beta-test copy of SSA's upcoming BPCS 6.0.4 release that he wants to put on an IBM

SSA, page 58

WHAT'S HAPPENING

Recent events at SSA include:

- $1.3M Q1 loss reported in February
- William Stuek takes over es CEO in April
- $9.4M Q2 loss réported in May
- Layoffs end research and development cutbacks announced this month

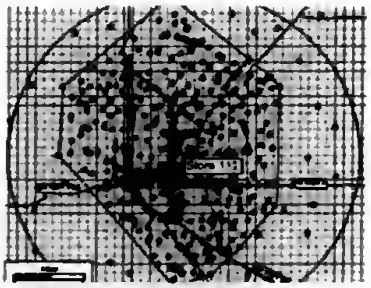
Geocoding tools sliver market data

CONTINUED FROM PAGE 57

directories based on where the phone company had switching centers, but the boundaries and resulting directories weren't always precisely accurate.

"We have wanted to make [the directories] more market-based to actually fit shopping patterns," said Todd Ague, the project manager for BellSouth's zoned directories.

BellSouth has its listings sitting in an Informix Corp. relational database, and it is starting to use geocoding software tools from Qualitative Marketing Software, Inc. in Clearwater, Fla., to create more precise maps of its listings. The software takes the addresses in BellSouth's database and assigns longitude and latitude coordinates to each address. It then pinpoints them on maps.



Geocoding tools show companies demographic hits in target market

"That extra precision, when appended to our listings database, gives us a lot more flexibility in determining the proper listings and distribution areas for a given book," Ague said. "Now we make better use of geographic boundaries, including rivers, streets and railroads, as borders for the directories. It's a very effective way to match users and advertisers."

Qualitative's software corrects and matches a customer's name and address with its own address databases. It then adds spatial data to each address record for mapping. Qualitative Marketing software licenses start at $20,000, although users who don't want to buy the software can pay Qualitative to run it for them. Other companies with tools that perform similar functions include FirstLogic, Inc. in La Crosse, Wis., and Harte-Hanks Data Technologies in Billerica, Mass.

Because the geocoding process is getting easier and the tools simpler, a wider variety of users are beginning to take advantage of them, said David Sonnen, an analyst at International Data Corp. "And a lot of nontraditional [geographic information system] users are starting to take a long look at incorporating spatial data into things they do," Sonnen said. □

Software that plays it by ear

CONTINUED FROM PAGE 57

effort by IBM's Special Needs Systems Group in Austin, Texas, and Arkenstone, Inc. in Sunnyvale, Calif., a nonprofit organization that specializes in developing products for people with visual and reading impairments.

WYNN can be used to read electronic documents such as memos and E-mail or books that are scanned into the application, said Bruce Mahaffey, a product planner in IBM's Special Needs Systems Group. WYNN lets users scan in the images and photos as well, so they get the full meaning.

WYNN incorporates features from IBM's stand-alone package Via Voice. That is crucial for some learning-disabled people who have difficulty typing. A new version of WYNN due early next year will feature dictation capabilities that will obviate the need for typing, Mahaffey said.

PROVIDING INDEPENDENCE

"It's a very significant product," noted Marcia Norris, training specialist for the high technology center training unit of the California Community Colleges in Cupertino, which has used the software since the beta shipped about three months ago.

"A product like WYNN can provide students or business professionals with the opportunity to have learning independence and, in many instances, overcome their disability," Norris said.

Norris, who has 20 years of experience teaching the learning disabled, called products such as WYNN and the rival Kurzweil 3000 package, which is similar and has been shipping longer, revolutionary.

WYNN is available at all 114 high-technology centers within the California Community Colleges system.

"In the mid-1980s, there was nothing like this. Learning-disabled persons were often unable to write their own papers. Now WYNN and other packages give the learning disabled a chance at much more equitable access to knowledge," Norris said.

Mahaffey said the response from business professionals has been overwhelmingly positive. "I got a letter from a Tennessee businessman with dyslexia who said, 'Damn, this stuff is good.' " □

SSA's Unix upgrades for HP users only

CONTINUED FROM PAGE 57

RS/6000 once a required operating system upgrade is finished.

Fort Wayne Plastics, a maker of plastic panels in Fort Wayne, Ind., may plunge ahead with the beta software even if SSA doesn't officially release 6.0.4 on the RS/6000, Durant said. "If I was pushing the envelope, I might be a little more concerned about doing that," he said. "But we're pretty basic here."

Durant added that another option would be to continue using his current manufacturing software and go back to the drawing board on finding a replacement.

For a larger manufacturer that also was looking to run BPCS on an RS/6000, SSA's new HP-only strategy is a bigger blow. Electronic-commerce technology included with BPCS 6.0.4 "was very critical for our business," said an information technology manager at the manufacturer, who requested anonymity.

The firm wanted to use the electronic-commerce capabilities to let customers check on orders and to automate replenishment of inventories at customer sites, the manager said. "Right now, it's kind of hard for us to say what we'll do," he said.

AVAILABLE NEXT MONTH

Bob Hoyt, vice president of operations at SSA, said BPCS 6.0.4 is slated for release on HP's Unix servers by the middle of next month. The Electronic Commerce Manager, which has been available with the AS/400 version of BPCS for more than year, provides a link between SSA's software and external business data.

A rewritten version of SSA's Unix code generator, designed to end lingering scalability problems, is due to follow in September, also for HP users only, Hoyt said.

SSA had sales of $430.5 million in its last fiscal year and is ranked seventh among packaged application vendors by International Data Corp. in Framingham, Mass. But most of its business still involves the AS/400. Hoyt said BPCS has been bought by 300-plus Unix users but is only in production at about 50 companies. About 90% of those users have HP hardware, he added, and two straight quarters of losses prompted SSA to limit its Unix development to that platform.

Bruce Richardson, an analyst at AMR Research, Inc. in Boston, said SSA hasn't been able to break into the Unix big-time despite spending more than $200 million on a client/server makeover for BPCS. Now, its best hope for better sales growth may be a Windows NT version due next summer, he said.

New management installed by SSA this spring "is much more realistic" than the previous regime, Richardson said. "But restructuring is easier than regaining momentum. Once you trip in this market, it's hard to pick yourself back up." □

Object technology

CONTINUED FROM PAGE 57

write one E-mail component that the applications could all use, whether they were written for Windows or other platforms.

Desai said Johnson Controls wanted to have tighter integration of its many isolated, sometimes incompatible applications.

Desai turned to a beta version of Iona Technologies Ltd.'s OrbixCOMet Desktop to ensure that his Windows clients written in various languages could access the CORBA component on a Unix server. An older COM/CORBA bridge from Iona required a separate bridge for each Windows application written in a different language, Desai said. "It was very kludgy," he said. "You had to know a lot about COM and CORBA."

OrbixCOMet, which was released July 13, and competing second-generation tools such as Visual Edge Software Ltd.'s Object Bridge for COM/CORBA, released June 1, allow bridging without requiring new code, users said. They are joined in the market by ICL PLC's Dais COM2CORBA, released in March, and BEA Systems, Inc.'s Desktop Connection, which has been available since April 1997.

All four bridges let non-Windows clients use COM objects. They can bridge the gap among objects on different servers.

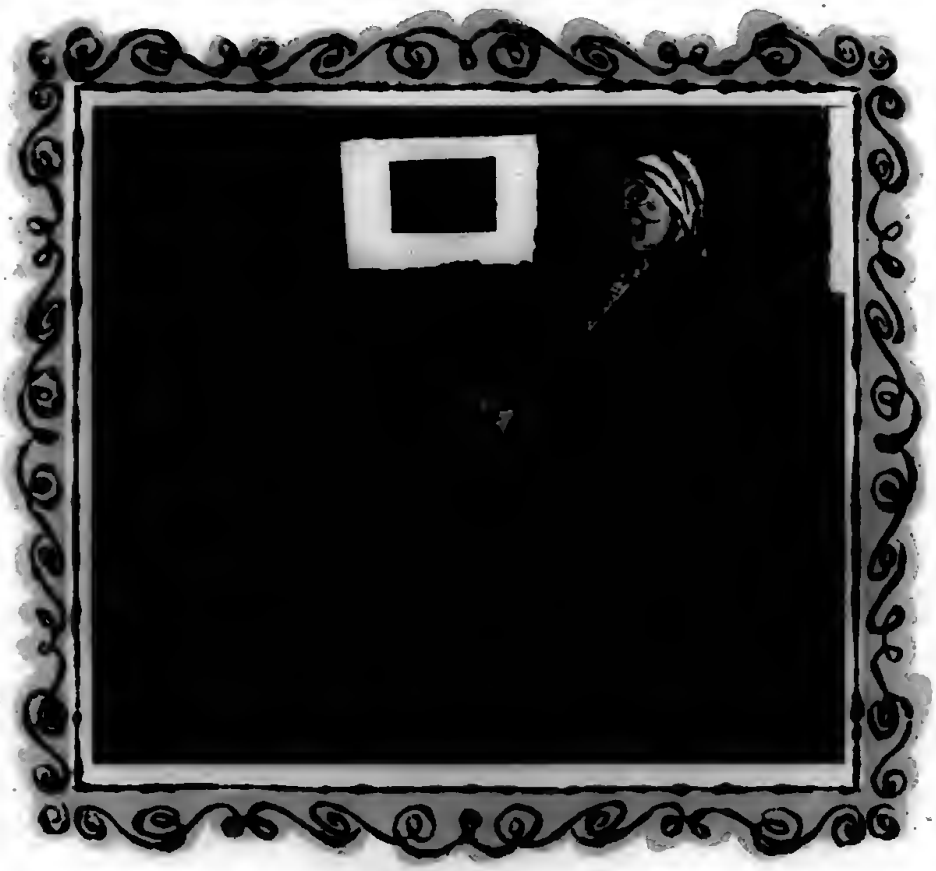
Version 4.0 of Delphi, Inprise Corp.'s rapid application development tool for Windows, supports both COM and CORBA, giving it a longer reach than its COM-oriented Microsoft rivals, said Dave Kelly, an analyst at Hurwitz Group, Inc. in Framingham, Mass. Inprise also makes a COM bridge for its CORBA-oriented Visibroker object request broker software.

At First Union Corp., a Charlotte, N.C.-based bank, the emphasis is on building reusable components in whatever technology is most appropriate. The bank's distributed object integration team is using ObjectBridge to link various Windows clients to a CORBA component that gives salespeople in different departments access to a mainframe-housed database of customer information.

Development is still under way, said team manager Bill Barnett, but the process has been much easier than writing the C++ code needed to build the bridge from scratch. □

USWEST

Mother was right.
No one said life was fair.



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Servers & PCs

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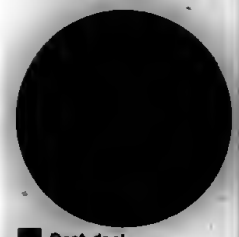
Briefs

The most important factors when choosing a wireless telephone



- Best deal
- Ease of use
- Battery life
- Style
- Durability
- Brand
- Other

Base: Survey of 972 wireless phone users

Source: The Yankee Group, Boston

Wresting control of remote PCs

▸ *Growing body of tools can save companies dollars and time*

By Kim Girard

SYSTEMS MANAGEMENT

JOE FEDERER, vice president of IS at HBO & Co. Healthcare in Atlanta, doesn't think twice about deleting a golf game or a personal finance program from a home-based user's PC.

After all, it's the company's machine, and adding layer upon layer of new applications to the PC just isn't acceptable, particularly when there are 500 telecommuters to support, he said.

"We force them to stay with a standard," Federer said. "We take the games off. We take all the accounting stuff off the machine that's not standard. It's not a play toy they can put the latest golf game on."

Keeping software installations standard is a side benefit of using XcelleNet, Inc.'s RemoteWare software, which analysts said is the best of a growing, yet limited, lot of tools that information systems technicians can use to control remote systems. At HBO, the software primarily is used on remote systems for file and software updates and system diagnostics and recovery.

Analysts said employers who fail to manage remote users' machines lose money and sacrifice control over how those PCs are used. Savings per user promised through automating systems management averages about $721,000 over the course of five years, according to International Data Corp. (IDC) in Framingham, Mass. It usually takes 45 days to recoup the software's cost.

Such savings could be critical because it costs about 20% more to support a mobile user than a desktop user — about $88,000 on average per 100 re-

Remote PCs, page 62

NO REMOTE CONTROL

Problems that IS managers face with remote PCs:

- Extensive annual upgrades are difficult
- Visibility is limited, and physical access to configure or estimate capacity is impossible
- Backup and/or data recovery aren't guaranteed in case of lost or damaged systems

Source: International Data Corp., Framingham, Mass.

Legacy access lets Sallie Mae go on Web

By Jaikumar Vijayan

THE INTERNET is giving Sallie Mae an easier way to offer services to its customers while increasing productivity of its customer representatives.

LOAN INFORMATION ACCESS PLAN

One year ago, Sallie Mae — as the Student Loan Marketing Association is more popularly known — went live with a new application that lets users directly access individual loan information stored on mainframe computers from any browser-equipped client.

A variety of options on Sallie Mae's Internet Self-Service menu lets users quickly get information on loan balances and details on any other services or options available to them.

Previously, students and other users had to call Sallie Mae service representatives to get the information.

TIME-SAVER

Now, use of the World Wide Web feature has improved customer service and also freed Sallie Mae's customer representatives from the time-consuming task of searching for individual loan information each time a student called, said Israel Gotay, vice president of information technology at Sallie Mae.

"We are doing it for the same reason that everybody else is doing it — containing costs," Gotay said.

Gotay didn't specify the savings for Sallie Mae so far, but he said, "Like any financial

Sallie Mae, page 62

Keep those PCs longer

▸ *There can be a method to upgrade madness*

By April Jacobs

WHILE MANAGING PC life cycles always has been an issue, there are ways to make sure that life isn't too short. Successful methods include standardizing configurations, leasing, or buying or leasing more PC capability than is immediately needed.

Although PCs are getting faster at a faster rate, savvy hardware buyers still can control their upgrade process by scheduling it in advance and making sure that the PCs they hand down to users lower on the company food chain don't get out of hand, analysts said.

"Companies should make sure they aren't cascading machines that are more than two generations apart," said Chris Goodhue, an analyst at Stamford, Conn.-based Gartner Group, Inc. That way they aren't managing too many configurations, and they aren't spending too much money playing musical PCs — which can be costly, he added.

Gartner Group estimates that it costs between $300 and $1,000 to move a PC onto a user's desk when factors such

Keep PCs longer, page 62

Unisys CEO seeks to make company easier to work with

Since taking over as CEO of $6.6 billion Unisys Corp. last September, Lawrence A. Weinbach has focused on the company's move away from hardware and software to services. In doing so, he is following a path set by former CEO James Unruh, who left Unisys last June. If the second-quarter results announced earlier this month are any indication, Weinbach's strategy may be paying off — profits spiked to $90.1 million on revenue of $1.73 billion, a 9% rise compared with a year earlier. Weinbach, a former CEO of Andersen Worldwide, talked with Computerworld senior editor Jaikumar Vijayan. Excerpts follow.

On Unisys' new customer focus:

WEINBACH: I have set up a

Weinbach, page 62

Wresting control of remote PCs

CONTINUED FROM PAGE 61

mote users, according to IDC.

"The cost benefit, to me, is pretty obvious," said Louie Tsallidas, executive vice president and chief financial officer at John Harvard's Brew House in Cambridge, Mass., which uses RemoteWare to move daily restaurant sales data to unattended PCs at any time of the day. "It took away all the manual effort and totally automated it so our accounting department is much more productive."

Because information is pushed automatically to the PC, the restaurant manager — or any other employee — doesn't need to dial in to the system to download data, which saves time and money, Tsallidas said.

Though many corporate users have spotted the trend of better mobile systems management, most are in the early implementation stages, said Ken Dulaney, an analyst at Gartner Group, Inc. in Stamford, Conn.

But the capabilities of available software are limited and the challenge of supporting remote users is vast, he said. Those challenges range from dealing with low-speed, low-bandwidth, intermittent network connections to the lack of in-person support at a user's site.

The problem will only worsen, Dulaney said, as corporate users connect handhelds and mini-notebooks they buy outside of work to their PCs and the company network, introducing new software and possibly viruses.

STANDARDS NEEDED

Overall, the remote management tool market is quite scattered and lacking in standards, leaving companies to struggle with how to choose the right product. Traditional system management vendors, including Tivoli Systems, Inc., Computer Associates International, Inc. and Hewlett-Packard Co., have focused on the desktop, making users wait for an equivalent mobile management solution.

XcelleNet's competitors, including IBM, Seagate Software, Inc., Information Transport Associates, Inc. and Connected Corp., provide a wide variety of non-standards-based solutions — from online backup to disaster recovery to database synchronization.

Information Transport Associates, for example, uses E-mail and file transfer protocol files to distribute upgrades and fixes to users. That is a smart idea, said Gartner analyst John Girard, though he said vendors should all place more emphasis on user bandwidth constraints and offer a variety of distribution paths, including E-mail, file transfer and messaging. □

Sallie Mae goes on Web

CONTINUED FROM PAGE 61

institution that does call center-type activities, there is some advantage to having information on the Web instead of having customers call on an operator."

Sallie Mae is an example of the rapidly growing number of companies that are leveraging their mainframe data to improve customer service and reduce costs via the Web.

EASIER ACCESS

In the past, crucial corporate data on mainframes and other proprietary environments was directly accessible to only a handful of users and was available on PCs only via relatively clunky host-access products.

Internet technologies are beginning to change a lot of that. A virtual horde of host-to-desktop connectivity vendors such as Wall Data Corp. in Kirkland, Wash.; UniKix Technologies in Phoenix; Open Connect Systems, Inc. in Dallas; Citrix Systems, Inc. in Fort Lauderdale, Fla.; and Graph-On Corp. in New York offer customers a way to put their data on the Web.

The vendors use Internet, intranet, Java and Web browser technology to give users a range of products for easily accessing applications and data from multiple hosts.

"The connection of legacy data to the Web is absolutely one of the hottest areas of automation today," said James Garden, an analyst at Technology Business Research, Inc. in Hampton, N.H.

Despite the security risk involved in opening access to corporate data via the Web, implementing the technology itself is relatively straightforward, Garden said.

Sallie Mae's Israel Gotay: "We are doing it for the same reason that everybody else is doing it — containing costs"

Sallie Mae uses IBM's CICS 6000 and an RS/6000 server as a secure Web gateway to an IBM S/390 mainframe system. For security reasons, student borrowers can access loan information only after entering their Social Security number and a personal identification number. □

EXTENDING THE LIFE CYCLE

- **Dell and Compaq both have corporate PCs designed to meet longer life cycle demands. Some Optiplex and Deskpro models have motherboards and processors consistently available.**
- **The average maximum life expectancy of a PC is about three years.**
- **Life expectancy can be extended by buying more scalable machines.**

Keep those PCs longer

CONTINUED FROM PAGE 61

as user downtime, help desk assistance and data transfer are taken into consideration.

Companies such as Round Rock, Texas-based Dell Computer Corp. and Houston-based Compaq Computer Corp. are trying to ease upgrade woes by extending the life of PCs on the shelf. That way, IS staffs don't have to get new models when they add systems a few months or even year later.

For example, some Dell Optiplex and Compaq Deskpro models are available in stable configurations for at least 18 months to users who may need to stagger upgrade cycles throughout their company but don't want to support too many configurations. Hewlett-Packard Co. in Palo Alto, Calif., is working on a similar program.

For some companies, a leasing program has helped ease the burden of figuring out what to do with those old PCs. It also has allowed them to give users newer PCs without worrying about depreciation and outright capital costs.

Both buyers and leasers should be careful of what they select.

At Hartford, Conn.-based PricewaterhouseCoopers, for example, users are getting new PCs six months earlier than scheduled because the previous systems failed to meet projected performance needs, said John Zenick, supervisor of global technology solutions.

"We thought [1G-byte] hard drives would be wonderful, and within a year and a half, they weren't enough," Zenick said. The company now is replacing more than 5,000 desktops 18 months after they were installed. They would have been replaced after two years.

Zenick said PricewaterhouseCoopers is taking an upscale approach this time around, leasing systems more capable than the projections estimate will be needed two years from now. "My advice to people is to consider what you need now and double it when it comes to memory and hard drive, because applications are taking up more and more all the time," he said.

PRODUCTIVITY ISSUES

However they manage the upgrade cycle, "IS managers also need to take into consideration the cost/benefit of making the move, which means taking into account how much productivity is going to be gained," Goodhue said.

An operating system upgrade provides an opportunity to look at replacing those old PCs, because it is a lot easier to upgrade an operating system with a new machine, said Martin Reynolds, an analyst at San Jose, Calif.-based Dataquest. Drivers and peripherals from older machines can present many compatibility issues, he added. □

CEO seeks to make Unisys easier to work with

CONTINUED FROM PAGE 61

large account program for 200 of our largest customers ... [aimed at] making it easier for them to do business with us [by giving them a single point of contact within Unisys].

I have made each of the top 100 executives [within Unisys] directly responsible for two customers. [It is part of a] program we put in place in April to make sure customers have quick access to whatever they need within Unisys.

On what drove these changes:

WEINBACH: Our top customers were being inundated with visits by multiple people from Unisys.

One of the things I kept hearing from people when I joined was, 'You have great products, you have great people, but you are hard to do business with.'

On how Weinbach has tried to make Unisys more service-focused:

WEINBACH: What I've tried to do is get people to focus on specific areas of expertise. We need to have great skills in whatever we do, but we don't have to cover the waterfront. What we have done is create a [skill set] that is a mile deep and an inch wide.

Some examples of the new approach:

WEINBACH: In the financial services sector, for example, the focus would be on areas like [bank] branch automation or payments systems.

In the transportation sector, we just developed an air cargo system.

In the airline industry, we were awarded a contract by [a Chinese airline] for a passenger reservation system. □

NEW PRODUCTS

ACER AMERICA CORP. has announced the AcerAltos 330S, a small-business server that uses Intel Corp. Pentium II processors that range from 266 MHz to 400-MHz.

According to the San Jose, Calif., company, the server comes with Microsoft Corp.'s BackOffice Small Business Server 4.0, a suite that includes NT 4.0 and software for E-mail, World Wide Web site design and Internet communication. A base configuration has 64M bytes of synchronous dynamic RAM, a Peripheral Component Interconnect 10/100 Ethernet network interface card, a 56K-bit/sec. modem for Internet access and a 33.6K-bit/sec. fax modem.

Pricing for the AcerAltos 330S starts at $3,995.

Acer America
(408) 432-6200
www.acer.com

MEDIALOGIC, INC. has announced the Ionic Series Scalable Data Library System, an automated tape library for data storage.

According to the Plainville, Mass., company, users can configure the library with Advance Intelligent Tape drives from Sony Electronics, Inc., or Ehant or Mammoth drives from Exabyte Corp. The library can house up to six tape drives, each with a dedicated loader. A migration system transfers data stored on legacy media, such as 4mm tape, 8mm tape, CD-ROM or half-height SCSI devices, to the library's designated format.

Pricing ranges from $15,000 to $50,000.

MediaLogic
(508) 695-2006
www.medialogicinc.com

SAMSUNG ELECTRONICS AMERICA, INC. has announced the SyncMaster 320TFT and the SyncMaster 520TFT, flat-panel color monitors.

According to the Ridgefield Park, N.J., company, the 320TFT is 13.3 in., and the 520TFT is 15 in. Both have up to 1,024-by-768-pixel resolution. Both are 2.5-in. thick and have detachable screens that can be wall-mounted. Each monitor's multimedia base incorporates stereo speakers, a condenser microphone and Universal Serial Bus ports.

The 320TFT costs $799, and the 520TFT costs $1,399.

Samsung Electronics America
(800) 933-4110
www.sosimple.com

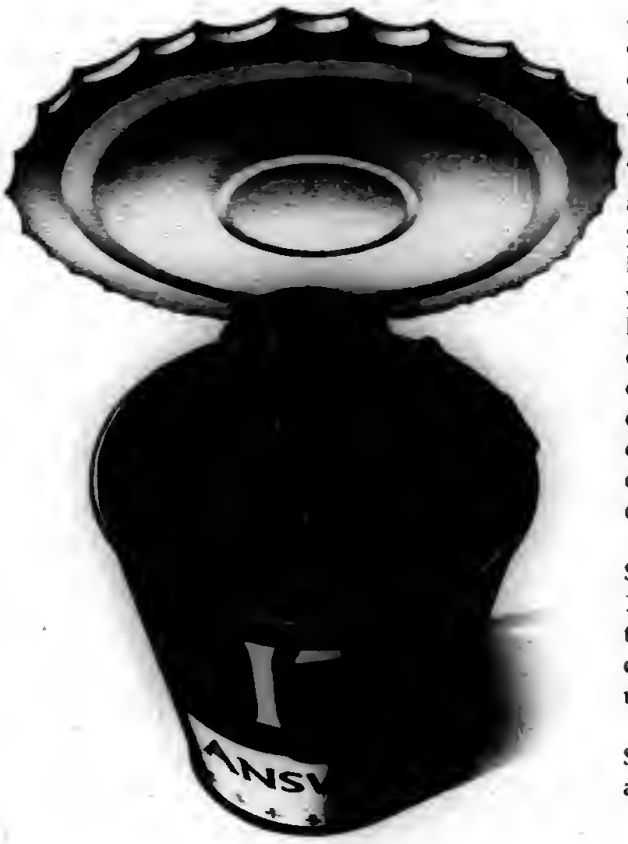
SCINET, INC. has announced the DiscJockey family of network-ready CD-ROM jukeboxes.

According to the Sunnyvale, Calif., company, the jukeboxes are network-attached storage devices with either a 4-to-1 or 5-to-1 ratio of discs to readers. They can plug in to NetWare or Microsoft NT networks and can house between 16 and 280 discs. No additional software is needed for file servers or client workstations, and access to the CDs follows standard Windows or DOS commands.

The entry-level, 16-disc DiscJockey costs $1,495. Pricing for configurable units starts at $2,095.

SciNet
(408) 328-0160
www.scinetcorp.com

Pacific Northwest Careers
COMPUTERWORLD
1-800-343-6474, x8000



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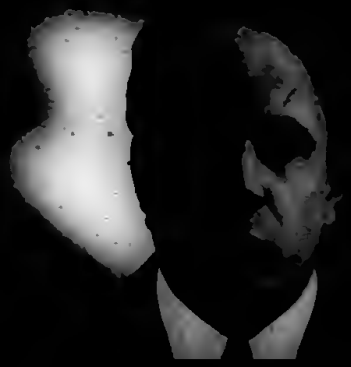

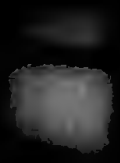

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Data Warehousing

Special Section: Data Mining • Decision Support • Strategies

Briefs

Info Builders extends

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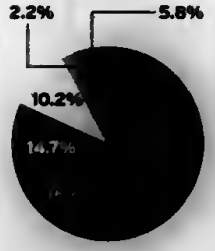
The top platforms for data access tools, ranked by 1997 worldwide market share



- 32-bit Windows
- 16-bit Windows/DOS
- Unix
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- Macintosh
- Others

Source: International Data Corp., Framingham, Mass.

OLAP: Too much of a good thing?

▸ *Easy user access could cause problems*

By Tony Baer

BUSINESS USERS USUALLY want to analyze data their way so they can explore it in a way that makes sense for their specific query. That's the promise of online analytical processing (OLAP) tools, which have become a popular way to access data warehouses.

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"OLAP is not just a matter of popping in a CD and hoping it all works," said Robert Craig, data warehousing analyst at Hurwitz Group, Inc., a consultancy in Framingham, Mass.

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OLAP, page 66

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By Leslie Goff

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Corning's Steve Cooper says a phased approach will ease the transition

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That's just one area of information management being transformed by a data warehousing project at Corning, Inc., a $4.1 billion company that makes optical fiber, specialty glass, emissions controls and other high-tech products.

The Corning, N.Y.-based company expects the data warehouse to give business analysts a much clearer and quicker picture of performance across the company; it also expects the results to help further conserve its resources, said Steve Cooper, director of enterprise systems.

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The new numbering system will be phased in over several years. All new materials and new vendors will be assigned numbers under the scheme, which will coexist with the current item numbers until old inventory is phased out. In

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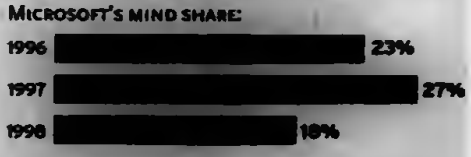

Base: Survey of 1,242 projects in 1996, 915 in 1997 and 200 in 1998

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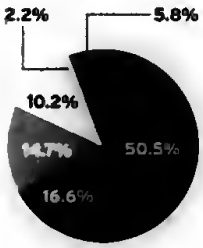

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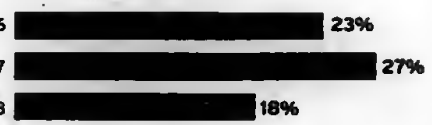

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CONTINUED FROM PAGE 65

sional databases populated with more data and used by more people.

Jim Curran, senior vice president for decision-support systems at State Street Corp., a Boston securities firm, recalled this example: A business unit responsible for a six-user spreadsheet program that relied on manual data synchronization didn't realize that data management practices would have to change if the application was scaled up to an OLAP server reaching hundreds of users across the globe.

Because OLAP databases, or cubes, usually are thought of as fairly small, people often believe that feeding in data should be trivial — even though many OLAP cubes require an intermediate data-conversion step that aggregates transaction data into the summaries often used by OLAP databases. The more cubes there are, the more time needed.

For example, Interstate Brands Corp., a Kansas City, Mo.-based national baked goods producer, allots up to 24 hours for weekly downloads to its regional divisions. Because each division gets a separate slice of the cube, that entails dozens of separate data extraction and migration processes.

At Sara Lee Corp.'s Hillshire Farms and Kahns division, a food processing unit in Cincinnati, the issue is bandwidth, not data. Each week, the company downloads separate OLAP slices to a user base of 120 mobile sales staff, plus 40 people at headquarters.

The result is a careful dance to ensure that data is downloaded in reasonable time frames to Sara Lee's mobile staff. Files smaller than 13M bytes are sent by modem; larger files are sent by courier on Zip disks. Most important, the company strictly limits updates to one per week for each user.

DATA QUALITY CONCERNS

Data quality, a problem that afflicts all data warehouses, can hit OLAP systems especially hard because of how the cubes represent or provide access to the data. For example, isolated errors in transaction systems can easily be corrected after the fact. That isn't the case with OLAP systems such as Oracle Express, which were primarily designed for read-only access, not online editing. The results are occasional, annoying discrepancies between OLAP systems and their corrected transaction counterparts, users said.

Furthermore, data-quality problems in OLAP systems can still emerge even when data is correct. AlliedSignal, Inc.'s North American Automotive Products Group in Rumford, R.I., learned that lesson the hard way when it built a profitability analysis system using a MicroStrategy, Inc. DSS Server that was fed from a combination of corporate applications and standalone business analyst spreadsheets that carried varying levels of detail.

Left untouched, the summarized, "correct" data would have been deceptive. "We had to reconcile data by forming a team with the finance department and apportion expenses based on domain knowledge that our business analysts had built in to their spreadsheet macros," said Rob Halsall, data warehousing project leader.

Another warning to users spreading OLAP cubes around their organizations: Different departments might use the same data in different ways. That may affect the design of OLAP cube dimensions, the choice of available reports, or both. At United Healthcare, a national managed care provider in Hartford, Conn., data on usage of therapeutic drugs is examined by underwriters to set prices on benefits, while the finance department examines how coverage of different classes of medications will affect the bottom line. The lesson United Healthcare learned was that one size of OLAP won't fit all. □

Baer is a freelance writer in Bedford, Mass.

PLATO CHANGES THE OLAP LANDSCAPE

What companies are doing in preparation for Microsoft's release of Plato:

Arbor Software, Inc.

- Merging with Hyperion Software Operations, Inc. to become OLAP application provider
- Introducing Arbor Integration Server, including meta data server and improved graphical tools for creating OLAP databases

Business Objects SA

- Releasing BusinessObjects Plato OLAP Access Pack

Brio Technology, Inc.

- Releasing Brio Enterprise 5.5, which supports Microsoft's OLE standard

Cognos, Inc.

- Licensing Arbistic, a Plato client developed by Panorama Software Corp. (which sold Plato technology to Microsoft)
- Releasing PowerPlay connectivity to Plato

Oracle Corp.

- Offering Sales Analyzer, a sales and marketing analysis application built atop Oracle Express

Seagate Software, Inc.

- Giving away Seagate Worksheet, an OLAP analysis client to Plato, Seagate Holos, Arbor Essbase and IBM's DB2 OLAP server

Corning

CONTINUED FROM PAGE 65

the meantime, cross-referencing tables will let managers map the old and new numbers.

"We wanted to salvage as much as we could and enable the company to move forward in a new manner," Cooper said.

The data warehouse also lets Corning tap in to its stores of production and customer information. "We were falling into a trap: data entropy," said Mark Ackley, a project leader.

Corning's data warehouse effort, which is tied to a PeopleSoft, Inc. implementation, is rescuing data trapped in transaction systems, cleansing and storing it by category in one large data warehouse and pushing it out to individual data marts for specific applications.

"We don't have the resources to put three or four teams in place concurrently," Cooper said. So Corning has a core team doing the project in phases, working with additional staff from each business unit who can add expertise about the unit's functional and IS needs.

"This way, with each data warehouse we can reuse and leverage what we have already done, so we get the biggest bang for our buck," he said.

Two Oracle Corp.-based warehouses, one for corporate procurement and one for order and sales management, now feed all 10 of Corning's operating divisions. During the next 15 months, Corning will add warehouses for financial data and supply-chain management.

A business-rules-based engine called Tapestry, from D2K, Inc., transforms data from transaction environments such as PeopleSoft and older legacy systems into the warehouses. For now, queries are performed using desktop tools such as Microsoft Corp.'s Excel and Access, as well as Seagate Software, Inc.'s Crystal Query, but Cooper said his team is evaluating data mining and analysis tools such as those from Cognos, Inc., Arbor Software Corp. and Prism Solutions, Inc. □

Goff is a freelance writer in New York.

COMMENTARY

Dallying with data

LESLIE HARRIS

Editor's note: Shaku Atre's column will return next issue, with Part 3 in her series on how to build a data warehouse.

Business visionary Tom Peters describes tomorrow's enterprises as fluid, self-organizing, interdependent, problem-solving groups.

How are IT managers going to produce data-centric applications in that environment? Corporations are still stuck in the centralized legacy systems model when it comes to viewing data and data strategy: Someone else manages the data resources, and they have critical data information, if needed. Yet businesses, and their data, have been steadily decentralized during the past decade.

Because the data model and the reality often conflict, the result is wasted effort, time, and money.

For example, one Fortune 100 company took six months just to locate the desired data for its new data warehouse project. It then discovered that there wasn't sufficient time to extract the data for the project because round-the-clock jobs ran against the data and because the volume required was too high to fit into an off-load window. Too bad the company spent $375,000 before discovering that.

Or take this example: Various investment departments at a large insurance company clobber one another's data as they refresh the mainframe from their respective data marts. Unfortunately, they're in different buildings of the corporate campus, so they don't learn of their plans at the coffee machine, where other application teams share critical project details.

Such companies haven't figured out how to be interdependent. That isn't surprising because upper management often encourages competition among technology groups — believing that will improve productivity — rather than creating incentives to share data and information (and not destroy their precious data commodity in the process).

Until managers figure out that no one is minding the data and that they need to figure out a data delivery strategy, such waste will continue. □

Harris is president of Paradigm Global Technologies in Chicago. She can be reached at lharris@paradigm.to.

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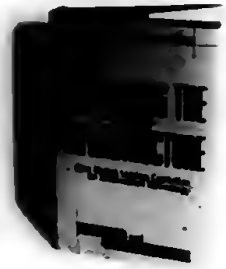
Managing

HOW *to* INVEST

▸**HOW SHOULD COMPANIES MANAGE THEIR IT ASSETS?** Just like an investor manages his stocks and bonds, say the authors of *Leveraging the New Infrastructure: How Market Leaders Capitalize on Information Technology*

By Rochelle Garner



A COMPANY'S IT portfolio — made up of transactional, infrastructure, informational and strategic asset components — can be managed much the same way a company manages its financial assets. That's the basic premise behind *Leveraging the New Infrastructure: How Market Leaders Capitalize on Information Technology*, a new book by Peter Weill and Marianne Broadbent (Harvard Business School Press).

Weill and Broadbent developed their thesis while colleagues at the Melbourne Business School at the University of Melbourne in Australia. For eight years, they probed the inner workings of 100 companies operating out of seven countries. Today, Weill is the school's foundation chairman of management (information systems) and director of the Centre for Management of Information Technology. Broadbent, previously a professor at the University of Melbourne, is program director of the IT Executive Program for Gartner Group Pacific in Brisbane.

Last month, *Computerworld* spoke with Weill from his home in Melbourne. (Broadbent was unavailable.)

CW: How did you come up with the analogy comparing elements of information technology to managing financial assets?

WEILL: We recognized that companies that successfully obtain business value from IT manage their IT assets differently. Really good companies, like Johnson & Johnson and Citibank, realized that some of their investments were high-risk. But that didn't stop them from investing. They just put more resources into it, and they were more careful in the management of the process. Over the years, we realized that this was exactly the same idea as managing assets in an investment portfolio.

CW: How would you describe those assets?

WEILL: Let's start with the strategic component — the high-risk/high-return part of the portfolio. We found that about 50% of strategic projects lose money five years later. The rest break even, with the exception of, say, 10%, that are spectacularly successful. These investments need much more careful management than, say, transactional investments. Transactional systems are really about cutting costs during the transaction, and often that includes substituting capital for labor. Those investments are very well-understood, and they have low risk. We found transactional investments have a solid return of between 25% and 40%.

CW: What's the typical return for informational assets?

WEILL: We concluded that firms that do spend more on providing information to their managers actually do get benefits. And those benefits are measurable, with things like faster time to market for new products and higher quality. But those impacts are not strong enough in their own right to be measurable on bottom-line performance. And the reason has to do with the discipline of using that information well and consistently across the organization.

CW: You wrote that infrastructure investments have no consistent impact on the bottom line, yet you say that firms with smaller investments in infrastructure tend to be more profitable in the short term but have lower sales from new products.

WEILL: I think that's the really important finding for senior management. Firms that invest below average in infrastructure take a utilitarian view. They see it as a necessary expense but only want to invest a minimal amount and want to make sure that those investments reduce costs. Those firms have interesting characteristics: They have higher profitabilities in the first couple of years after their investments. But they also have slower time to market for new products, fewer sales from new products, and they have lower revenue growth. The firms that have an "enabling" view of infrastructure have lower profits the first couple of years after the investment. But they have faster time to market for new products, more sales from new products and higher revenue growth. It's a lovely balance. And as a board member, you have to decide what the balance has to be for your particular strategy.

CW: Can you give me an example of how a company might put this all together?

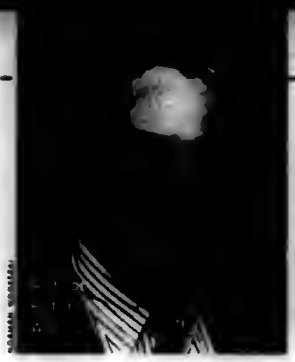
WEILL: To begin with, firms need to examine the industry averages spent as a percentage of expenditures on the four component classes (informational systems, transactional systems, strategic projects and infrastructure). The amount of money they allocate into each class depends on the strategy they want to achieve. So if a company wants to be a low-cost, low-price, low-service organization, then it's going to maximize its transactional investment, yet spend less on IT overall, than the industry average. [See related story, next page.]

CW: When you talk about managing IT as a financial portfolio, do people ask how much to spend, on what?

WEILL: That's exactly what people ask. There are only two good answers: You have to know the overarching business principles — like continuous product innovation, say, or strong customer relations across all business units — to make that decision. Those principles provide

Weill's Wisdom

- **The companies that manage technology best manage it like a portfolio of stocks.**
- **For short-term profitability, spend less on IT infrastructure. For long-term revenue growth, spend more.**
- **Don't avoid higher-risk investments — just choose and manage them carefully.**
- **Study your industry's IT investment patterns before you invest.**
- **Information assets have measurable value, but their bottom-line impact depends on how they're used.**



the strategic context for using IT throughout the company. And they must be boiled down in a way that's clearly articulated and easily understood. Without them, you will be making technology-led decisions, and we know that's unstable and unpredictable in its outcomes. And you also have to take a portfolio view. At some place in the corporation you have to bring all of the investments together, in summary form, so you know what your total portfolio is. That's a surprise to most companies, but they see the sense of it as soon as you make the analogy back to the financial portfolio.

CW: Who is the likely keeper of that knowledge?

WEILL: The likely keeper is the CIO or the CFO. Who it should be, though, is different. In our view, the keeper of that knowledge should be a group, sometimes called an IT council or IT committee, and it should include the general managers of each business unit and the CIO. As a group they should own the infrastructure and manage the portfolio.

CW: Once a company defines its business principles, what's the next step?

WEILL: The intermediary step is to understand the performance for each IT class in your company's portfolio. You need to know how much the organization spends on IT, in total and for each asset class. That way you can ask whether it makes sense to spend 14% of your revenues on strategic systems, in accordance with your business principles. You then compare those with the benchmarks in the book, by industry. And then you say, "Given our strategy and given our industry benchmarks — where the average spends 6% to 8% on strategic systems — is this spending appropriate for us?"

CW: How does the analysis then follow that comparison?

WEILL: You need to make your investment case, justifying expenses in a way that will please a hard-nosed accountant. We often recommend what we call the "discount cash flow value analysis." In effect, this separates [out] the certain and uncertain benefits. You put the certain benefits into a traditional discounted cash flow analysis, for calculating such things as net present value. You add the uncertain benefits, which are the best estimates by your best people.

Here's an example: We recently worked with an insurance company that wanted to invest in a decision-support system to help claims assessment, using a workflow package. The investment would cost $2 million, and using certain benefits and the net present value calculations, they were able to say the project would lose $250,000. But they then identified uncertain benefits, often called intangibles, which added up to $3 million. One intangible was faster training for new claims assessors. Another would be a more consistent face to their customers. A third would be capturing the knowledge of what makes good claims and building it back in to the system. Now this last was a very uncertain benefit but a very attractive one. The IT investment board said this system met their business maxims. They realized they will lose $250,000 on tangible benefits, but they could get back $3 million on intangibles. And they asked themselves whether they were prepared to pay the $250,000 they will lose on the project for the chance of getting those intangibles. That's how you make the decision. This company recognized the knowledge management piece was very risky, and they wanted to do a pilot on it. They decided to double the amount of money for project management of this very risky project. That's good practice. And that's how companies manage an IT portfolio. □

Garner is a freelance writer in San Carlos, Calif.

Comparison shopping

You can't adjust your company's IT spending if you don't know how you compare with others in your industry. That's why authors Peter Weill and Marianne Broadbent include this chart in their book.

Say, for example, your company is a manufacturer. Looking at the chart, you see that 10 manufacturing companies participated in the survey. You also see that, firmwide, the industry spends an average of just 1.7% of revenue on IT and only 2% of expenses. The portion of IT within the industry that's centralized in a company is 52%. Looking down the same column reveals how the portfolio breaks down for corporate IT and for business units.

So what does that reveal? The precious little that the 10 manufacturing companies invest in IT is aimed primarily at controlling costs, facilitating R&D and improving product quality. Does that mean your company should mirror those investments? For that you need to ask:

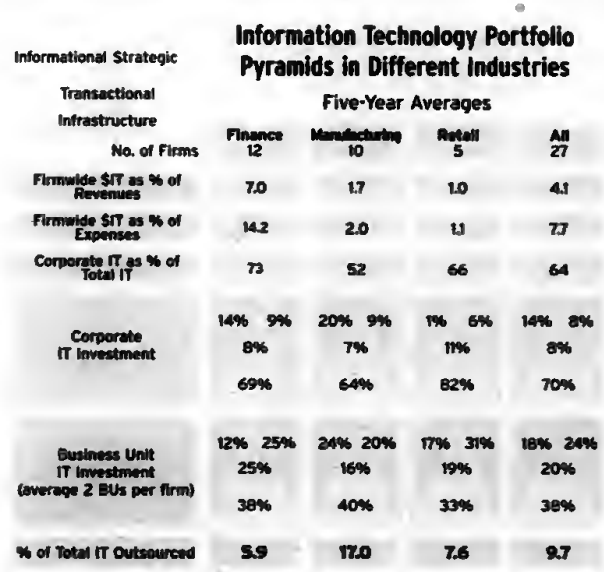
- **Does your company rely on revenue from new products?**
- **Does it inhabit the premium end of your industry, or do you play in a commodity market?**

Only by answering those and other questions can a company align its IT spending and assets with its corporate goals.

The chart below is adapted from *Leveraging the New Infrastructure: How Market Leaders Capitalize on Information Technology*, by permission of Harvard Business School Press. Copyright 1998 by the President and Fellows of Harvard College; all rights reserved.

Information Technology Portfolio Pyramids in Different Industries

Five-Year Averages



	Finance	Manufacturing	Retail	All
No. of Firms	12	10	5	27
Firmwide $IT as % of Revenues	7.0	1.7	1.0	4.1
Firmwide $IT as % of Expenses	14.2	2.0	1.1	7.7
Corporate IT as % of Total IT	73	52	66	64
Corporate IT Investment	14% 9% 8% 69%	20% 9% 7% 64%	1% 6% 11% 82%	14% 8% 8% 70%
Business Unit IT Investment (average 2 BUs per firm)	12% 25% 25% 38%	24% 20% 16% 40%	17% 31% 19% 33%	18% 24% 20% 38%
% of Total IT Outsourced	5.9	17.0	7.6	9.7

Av%Δ=Average percentage change per year.

in TECHNOLOGY

MS.MIS
WOMEN IN INFORMATION SYSTEMS

HEALTHY ATTITUDES

Increasingly, breast cancer patients see work as therapeutic. For employers, the issue is telling employees it's OK to take time off

BY LAURA DIDIO

JEANNE FELT the lump in her left breast as she was dressing in the morning.

She wasn't terribly worried. After all, statistics show that 80% of breast lumps are benign. At any rate, she didn't have time to worry. Jeanne, a vice president and MIS manager at a New York brokerage house in her late 30s, was rushing to catch a plane to speak at a business meeting. She filed the nagging doubts away along with her presentation.

Unfortunately, the lump was malignant.

Ellen's story is similar, but it hits closer because she's a manager at *Computerworld*. Like Jeanne, Ellen, who's in her early 30s, detected her breast lump herself and didn't think it was cancer. Ellen got the bad news from her doctor at the worst possible time — at the height of *Computerworld*'s production schedule.

Overnight, Jeanne, Ellen and the five other women I spoke with became statistics. They are among the one in eight women between the ages of 20 and 95 who the National Cancer Institute estimates will develop breast cancer. The American Cancer Society estimates that 178,700 women in the U.S. will be diagnosed with breast cancer this year. And 1,600 men will get the disease.

STAYING ON TRACK

But as breast cancer becomes an unfortunate-yet-more-commonplace fact of life, women managers in the high-pressure, high-tech world are starting a trend of their own. They frequently choose to continue working full time and arrange their various chemotherapy and radiation treatments so that their careers — and personal lives — will be impacted as little as possible.

It's a trend that Dr. Helena Chang says she's seeing more of as director of the Revlon UCLA Breast Cancer Center in Los Angeles. The center is at the forefront of developing methods of early breast cancer detection. It's also a pioneer in helping women deal with the psychological and social aftereffects of the cancer.

"Women whose jobs involve a lot of physical activity tend to take more time to recuperate from breast cancer treatment. Women at higher-level, higher-paid leadership positions tend to be more aggressive and handle both job and cancer at the same time," Chang says.

All of the women I spoke with emphasized that they had the full support of their superiors, and it would not have been a problem to take days or even weeks off while undergoing treatment. Jeanne required two operations and did take a few weeks off to recuperate. But she didn't miss a day of work during her regimen of chemotherapy and radiation.

"Work was therapeutic for me," Jeanne says. "I didn't want time off. I wanted normalcy."

Ellen expressed similar sentiments. "I didn't want to feel like I was sick. I wanted my regular life. It was very important for me not to miss work," she says.

To accomplish that, the women scheduled their chemotherapy treatments for late Friday afternoons. "That let me work the whole week and sleep on the weekends," Jeanne says. She was also taking Nupogen shots to boost her white blood cell count. "This was great because it meant I could get the chemo in the doctor's office instead of going to the hospital, which took more time."

Ellen's Friday afternoon chemotherapy treatments were followed by six weeks of radiation, five days a week, first thing in the morning. "It wasn't until the fifth week that I got tired. But I was determined to make it through the day no matter how many cups of coffee it took," she says.

In response to life in the '90s that includes realities such as breast cancer, high-level executives are becoming increasingly sensitized to their employees' needs to take time off, telecommute or rearrange their schedules to accommodate treatment or family crisis situations.

"Many people don't want to take time off or ask their bosses for special treatment," observes Emilie McCabe, a vice president in IBM's Software Solutions division. "As a manager, I've sometimes stepped in and encouraged them to do so. I feel it's my responsibility to let people know that it's OK to take time for themselves."

Chang agrees. "Health takes priority. I understand that women with breast cancer feel more upbeat going back to work for even half a day," she says. "But I also tell them, 'You don't have to be a superwoman. If you feel exhausted, take more time at home. The work will still be there when you get back.' " □

MORE ONLINE

Laura DiDio will conduct an online forum this week on the issues in this column on Computerworld online. www.computerworld.com/more

DiDio is Computerworld's senior editor, security and network operating systems.

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JIM CHAMPY

IT EXECS FINALLY HAVE THEIR DAY IN THE SUN

Recently, I sat in on a skull session of a very famous company's top management team. Just one item loomed on the agenda: the future of the business. Oddly, the meeting had been called by the company's IT executive, of all people.

As I looked at the folks from research, manufacturing, marketing, logistics, sales, finance, human resources and legal, I thought: "Shouldn't the CEO have scheduled this gathering?" With the CEO hanging on his every word, the IT guy smoothly opened the discussion on digitally enabled global channels and commerce.

Welcome to the expanded job of the CIO, CTO or whatever you call the person who runs corporate information technology these days. Now a combination prognosticator, strategist and living representative of the central nervous system of the business, the IT leader has never been so influential. Changes in technology can affect processes, channels and even the nature of the organization.

The old days seem quaint by comparison. Remember when the DP manager's job was to ask line managers what they needed, then go build systems? Of course, it was never that simple. Line managers often didn't know what they needed. Or all they knew was that they needed more of the same. And there have always been those rare IT leaders who went beyond their prescribed roles.

What began to make life complex was re-engineering's recognition that a company's most important systems were often cross-functional — systems that crossed departmental boundaries. For instance, order-entry systems required the coordination of the sales, manufacturing and logistics processes.

It was dangerous work, politically. People got shot if they pushed too far. I remember one IT executive telling me he spent a lot of time designing "foreign policies" to deal with other parts of the company.

But when the notion of "obliterate, don't automate" — to quote my old partner Mike Hammer — really took hold, IT managers were thrown into business-process redesign. After all, only they could literally diagram a company's processes. And then came enterprisewide systems from companies such as SAP, Baan and PeopleSoft that compelled (sometimes force-fit) process change.

Now, the Internet is transforming computing once again. Today's process redesign is from the outside in, as multienterprise organizations band together electronically to meet customers' demands for faster, more convenient services. All of which is driving the development of vastly complex server applications.

But even before re-engineering or the Web, a few IT executives were leading business change — folks such as John Collins at Hallmark, the "social expressions company." Collins understood the complexity of the greeting card business — 75,000 constantly changing SKUs. He was pivotal in building one of the first modern-day logistics systems. He sat at the right hand of Bob Stark, Hallmark's visionary chief operating officer.

Then there was John Tierney at Burlington Northern Railroad. Tierney knew that, to compete with Federal Express, his railroad had to know how to locate the train — never mind the car or the box. He loved railroading and inspired people to reach for new standards of service.

And, of course, there was Max Hopper, the legendary head of IT at American Airlines. Hopper didn't just change a business, he invented a travel industry.

Collins, Tierney and Hopper were seen as exceptions. Today, IT-led business change seems almost the rule. What can we learn from those greats?

First, live as much in the business as in the IT function. That means walking out in the company's markets, seeing customers, understanding the relationship between your operations and how customers experience your company. It's hard, but spend more than half your time out of your office.

Second, have a passion for the business — understanding it isn't enough. Collins, Tierney and Hopper were in love with the products or services of their companies. It takes that kind of consuming interest to drive for operational excellence. Incidentally, I don't believe in hired technology guns who can operate in any business.

Third, surround yourself with good people. Collins, Tierney and Hopper did. Business problems have always been complex, and it takes skills in multiple disciplines to sort them out. Have no tolerance for incompetence.

Finally, enjoy your day in the sunshine of CEO-recognition. The year 2000 problem has jokingly been called the best revenge of old Cobol programmers. But CEOs finally understand their dependence on technology. And you're the technologist.

Senior line managers are all ears. As the IT executive at my recent strategy meeting quipped before he started, "Even I can't wait to hear what I have to say." □

Champy is chairman of consulting at Perot Systems Corp. in Cambridge, Mass. His Internet address is JimChampy@ps.net. His newspaper columns are syndicated by Tribune Media Services.

f.y.i.

Quality reading

The American Society for Quality (ASQ) in November will launch a quarterly peer-reviewed journal that will address the application of quality principles to the development and use of software.

The *Software Quality Professional* will focus on the needs of professionals who plan, design, test, audit and manage in a capacity related to the production and application of software and systems that depend on software. ASQ wants the journal to act as a forum for the exchange of ideas and experiences.

A one-year subscription is $30 for ASQ members, $60 for nonmembers. You can subscribe by calling ASQ at (800) 248-1946 or (414) 272-8575. Or you can fax your order to (414) 272-1734 or mail it to ASQ, PO Box 3005, Milwaukee, Wis., 53201-3005.

Quality stuff

Three IS organizations have been honored for their efforts to demonstrate a strong commitment to quality principles and practices.

The organizations — Grupo Banamex in Mexico; First Data Investor Services Group, Inc. in Westboro, Mass.; and United Parcel Service of America, Inc. in Louisville, Ky. — were honored by the Quality Assurance Institute (QAI) at its annual International Information Technology Quality Conference in Orlando, Fla.

The three were honored with QAI's Best of the Best Work Practice Award for 1997. The award program, begun in 1990, was launched in response to a need to benchmark and share IT practices.

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In Depth

'My Tough Luck'

A YEAR AFTER BEING FIRED FROM APPLE, GIL AMELIO TALKS CANDIDLY ABOUT HIS TRIUMPHS, HIS FAILURES, HIS LEGACY AND THE COMPANY'S PROSPECTS

"I HAVE ONE OF THESE," Gil Amelio says, examining a visitor's palmtop computer. "I just haven't got into the habit of using it. Maybe I'm still mourning the death of Newton." He gently places the palmtop next to a copy of his recent memoir, *On The Firing Line: My 500 Days at Apple* (Harperbusiness).

Amelio left a posh job as CEO at National Semiconductor Corp. in 1996 to bring big-business discipline to Apple Computer, Inc. If Steven Jobs was Apple's rock star, Amelio was the tour manager, worrying about equipment arriving on time or money for the next show. His turbulent year and a half there ended when he was fired on Independence Day weekend last year.

Now 55, Amelio is now a partner at The Parkside Group LLC, an investment firm in San Francisco's financial district. He spoke with *Computerworld* industry editor Joseph E. Maglitta in his quiet 17th-floor office, where the postcard view of the Golden Gate Bridge, Fisherman's Wharf, Chinatown and Coit Tower seems far from Silicon Valley's blacktop jungle.

CW: The title of every chapter of your book is from Shakespeare. Why?

AMELIO: It's a very Shakespearean drama, where the hero has something less than a wonderful ending. I just felt like all of the characters in the book had fatal flaws . . . whether I talked about myself or Steve Jobs or Bill Gates, they had this one aspect, this one dimension about who they were that worked against them.

CW: What are these fatal flaws?

AMELIO: Steve's known in an almost mythical way. . . . There's this creative image of who this guy really is. But he's got to manipulate every situation to his point of view. I was having breakfast with an old Apple employee this morning, and he was reflecting: "You can't ever disagree with Steve and get away with it." Very career-limiting.

Bill is too competitive for his own good. There's a way to be competitive, and then there's a way to be competitive against all rational, sensible, common sense. Bill is — and I determined this [illegible] — incapable of even letting [illegible] have *one* of the marbles, much less 10 or 20. It is just not in his nature. If I caught Bill in a good moment, [illegible] give [illegible] what turned out to be good, co[illegible] advice about Apple. Then in the next breath, the old fire-breathing competitor would come out.

Several years ago, I said, "It's only a matter of time before Bill's going to get in trouble with the feds." Because he just doesn't know when to back off. He's obviously been very successful, but there's an aspect of his personality that is Shakespearean.

CW: Some have suggested that your fatal flaw was being too trusting, naive or even suicidal in bringing Steve Jobs back to Apple. What were you trying to do?

AMELIO: My image was, "Hey, we can really make a hell of a team." Me with my technical experience and experience running large corporations, Steve with his instinct for the industry. I would be chairman, partially invisible to the press, making all the sharp business decisions. Steve would be the front guy . . . this glamour boy out there keeping the faithful in line. But that obviously was not to be.

CW: What was it actually like working together?

AMELIO: If you ask Bill Gates' point of view on something, he will give you a very rigorous, analytical answer. Gates has a left-brain brilliance. If you ask the same thing, Steve will say, "This is what you should do." And usually, he's right. But then if you say, "OK, Steve, why?" he says, "I don't know why, it just feels right." He's all right-brain.

When I face a business problem, I try not just to feel my way through it, but I try to analyze it as well. Steve doesn't have much patience with left-brain rigor. Most of the CEOs I know have a very clear way of thinking through things and expressing why they feel the company ought to do this or that. Steve doesn't do that very well.

> **"I can be effective, but I'm not a Bill Clinton or Steve Jobs . . . I'm not glamorous."**

CW: It's hard to read this book and not see you as the adult among bright, bratty teen-agers. As CEO, were you surprised to find your orders taken as "suggestions" or even ignored?

AMELIO: I was surprised to a degree. Nothing in my board experience had prepared me. I heard apocryphal stories, but either I didn't want to believe it or I didn't appreciate it. But it was an extremely adolescent culture. Anyone who raised children knows how teen-agers can be: Mom and Dad want them to do this, so they're going to do the opposite. And that's what it was like at Apple.

CW: Where does that come from?

AMELIO: Steve had such a powerful influence on the culture in the early days that [the company] never really lost it. People would say, "What did Steve Jobs do when he ran the Macintosh? He went into another building, he put a pirate flag out front, he tweaked his nose at John Sculley and made the world's greatest product. Therefore, that's how I'm supposed to behave." But frankly, most people don't have the talent or the ability to pull it off. And so what we had was just a contrary organization.

CW: Did you ever get frustrated enough and say, "Knock it off, kids!"

AMELIO: There were times when I wanted to say, "OK kids, let's grow up. Jesus, don't you realize we are in big trouble?"

CW: How big was the trouble?

AMELIO: My first year [1996] was the most tumultuous year in Apple's history, in my history, in *anyone's* history. It was a period of total chaos. We had systems crashing and freezing. We had PowerBook. Apple's computer performance, all other things being equal, was worse than Windows'. They [Apple employees] knew that. And they were accepting it. We had Copland [an operating system], which was dead on arrival, a crisis. We had 300 R&D projects when we needed about 10. And we had no money.

CW: You're pretty tough on yourself in the book. Was saving Apple even possible?

AMELIO: Given enough time, it was doable. I needed a little more help than I got. I didn't get enough help from the board; I didn't get enough help from the press; I didn't get enough help from other companies — particularly Netscape — who had every reason to want to align themselves better with Apple, given their competitiveness with Microsoft. All they gave me was token support. I couldn't get a deal with them.

CW: How big of a problem was pressure from Wall Street?

AMELIO: Actually, Wall Street was surprisingly supportive. I raised the $660 million [in much-needed capital funding] overnight, literally. And that was a hell of a testimony. The pressure came much more from the press and the business press.

Apple brought the worst out in . . . the press. There were people I had dealt with for years in

My tough luck, page 76

Gil Amelio

My tough luck

CONTINUED FROM PAGE 75

other jobs — really reasonable, sane, level-headed, decent reporters. And then I go to Apple and I'm talking to exactly the same person, and suddenly it's like they're different. And I was just not articulate enough to make the press understand that we had a turnaround story going on.

CW: What did you consider the most important signs of that turnaround?

AMELIO: We took the machine from being a Model T to being a modern system. We improved the performance of our desktop computers a factor of 10 in overall benchmarks. Beginning in February '97, we introduced the first new wave of products: [six were] announced in six months. Never in Apple's history had it introduced six products in a row on time. People were starting to get that pride back again.

And I stuffed the pipeline with a whole bunch of new product. Every product except the iMac that's been introduced [since I left] was stuff that I started. You know we [Jobs and I] overlapped for six months. We had this master blueprint laid out [for] the next two to three years to get Apple back on its feet. With only a few exceptions, he's following that plan. Bringing [Newton] inside and then shooting it, I don't think was the wisest thing to do. And be killed Power Express.

CW: You got the call saying you were fired on a July 4 family weekend. What was that like?

AMELIO: It was an out-of-body experience. You're just looking down on the situation and saying, "Gee, that poor bastard is having a bad day."

The board never once took me aside and said, "You know, Gil, gee, we're not too happy with your performance." That day they just said, "We've just made up our mind. It's over."

The bizarre thing was that things were starting to fall into place. I mean, things were happening; new products were coming out. The board just lost its courage.

CW: What's your relationship with Steve and Apple like now?

AMELIO: I doubt Steve and I would ever really be friends again, if we were ever friends in the first place, because I just think we live in two different worlds. I have no axes to grind with Steve. I love Apple. I still use Macs. I will always use them, at least as long as I can.

"Several years ago, I said, 'It's only a matter of time before Bill's in trouble with the feds.' He just doesn't know when to back off."

CW: It's been a year since you left. What would you do differently?

AMELIO: [Getting the same salary as I did at National Semiconductor] was obviously a mistake, because this explosive reaction in the press was very negative. I mean, it was a pittance compared to [the salary of The Walt Disney Co. Chairman] Michael Eisner. But you don't expect your religious leaders to be making big bucks, and I was leading a religion.

What I should have done was go in on a very nominal salary — maybe take a salary equal to the average engineer. Put more reward for me in the pot at the end of the rainbow, but in return, [I would] get an absolutely ironclad guarantee of three years from the board. And I mean unbreakable.

CW: In the book, you wonder how things would have turned out if Bill Gates had gained control of the Mac operating system. What would have been the impact of adopting NT, as was discussed, rather than Next?

AMELIO: Well, one, I would still have a job, because that would have obviously prevented Steve from coming back. Two, the Mac community would have gone apoplectic over it. But I think they would have gotten over it. And I was very close to making that decision.

Apple was "an extremely adolescent culture . . . Mom and dad want them to do this, so they're going to do the opposite."

I didn't do it primarily for a technical reason. Even though we could build the foundation of the new Mac operating system on NT, we would have had to switch processors. Although Bill wanted us to do it on the Power PC, I was convinced we couldn't do it. I had to be able to support legacy applications for the Mac and have a new operating system that was going to embrace all the features people expected in a modern OS. I saw that I could have both of those in Next, and I could only have one if I went NT.

CW: Will Apple survive?

AMELIO: There's no question in my mind. The question is, can it win big? Rhapsody — or now, Mac OS 10 — well done gives them the chance to win big. In the three to five years from the time I first walked in the door, a successful company will emerge. Maybe a different company.

CW: What would be the key product?

AMELIO: If there is one thing that could bring Apple back to its former glory, it's that next-generation operating system. It gives Apple a chance to change the playing field.

You keep playing the game by Microsoft's rules, you're going to lose. But the new kind of operating system that is hardware-agnostic, that will run on a number of different environments, including Java, will change the landscape. It'll force Microsoft to change. Well executed, it could put them on the defensive.

CW: What's crucial in creating the new Apple?

AMELIO: Professional leadership. Steve is truly an inspired guy, but he doesn't have any experience running a large corporation. In the final analysis, Apple is going to have to be run like any other large, well-run company. And that's going to take a set of skills that present management doesn't have.

CW: What will that leader look like?

AMELIO: Someone who has approximately my experience but who has a more charismatic personality. I can be effective, but I'm not a Bill Clinton or a Steve Jobs . . . I'm not glamorous.

CW: Why is glamour important?

AMELIO: It's the cult. There's an enormous amount of positive energy in the company. . . . It's what's kept the damn thing afloat through some of the most incredibly bad business decisions I've ever seen anywhere.

CW: If you were going to prescribe a medicine for Apple, what would it be?

AMELIO: Give everyone a free bag of pot every day. [Laughs] They would sometimes be tremendously irreverent to me as their leader, but you know, in a way, they really loved me.

And when I finally stepped down, I cannot tell you the mountain of mail I got from Apple employees where they really just tried to reach out in their own way to say, "Gee, we're going to miss you, and you really had an impact on this company."

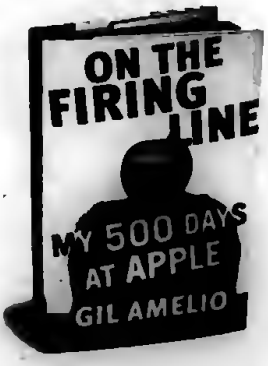
CW: Do you resent Apple?

AMELIO: Hell, no. I put a big chunk of my life into this company. I want to see it succeed. And if Steve winds up getting some of the credit for it, it's just my tough luck. □

Maglitta's Internet address is joe_maglitta@cw.com.

On The Firing Line: My 500 Days at Apple.

By Gil Amelio and William L. Simon. Harperbusiness, New York; 288 pages; $25; hardcover



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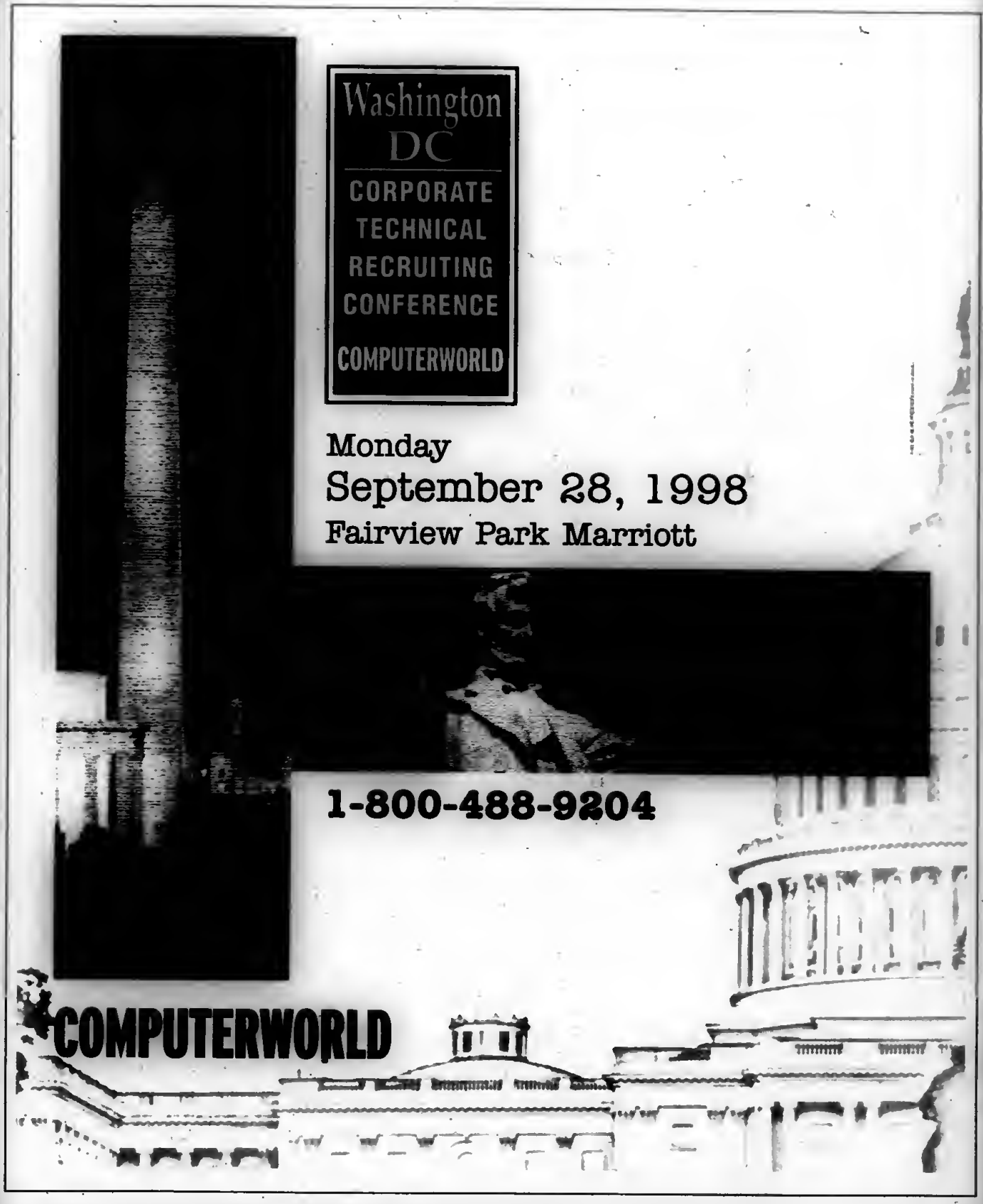
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JAVA JUNKIES:

Staying ahead of the wave

By Claire Tristram

Market demand for Java programming skills is like a wave that refuses to break. Java was supposed to take off a year ago, but the nasty lawsuit between Sun Microsystems, Inc. and Microsoft Corp. persuaded many companies to wait.

In a recent study by Zona Research, Inc., a remarkable 100% of the companies surveyed plan to employ Java in the future, but only 5% use it in any significant way today.

Despite Java's growing pains, many information technology professionals say that when the Java wave does break, they'd rather be riding on top of it than drowning in it.

"My advice is you'd better learn Java now because you never know when you might need it," says Mark Freemantle, principal member of technical staff at Performance Engineering Corp., a systems design firm in Fairfax, Va. "Java is where the jobs will be."

Last year, Freemantle spent his training budget in a three-day Java seminar, even though his company had no Java projects pending. He continued his education through online forums.

Freemantle then evangelized about Java's capabilities at his company. And, days before being interviewed for this article, his foresight paid off: A major client in an important new market required a package that involved Java, and Freemantle was ready with the right skills.

"Two weeks ago, Java was a nice thing to know at my company," Freemantle says. "A week ago, it became an absolute necessity. Things are moving that fast."

"Besides being a buzzword right now, knowing Java is a tremendous career advantage because it makes a lot of platform issues go away," agrees Mark Lussier, lead software engineer at Redwood City, Calif.-based DHL Worldwide Express. "It broadens the job market for any engineer since you can go to work on Java projects independent of your experience with a particular flavor of programming."

Freemantle and Lussier have lots of faith in Java as a career necessity, and that faith is backed up by facts. Tune out all the noise that surrounds Java, and you find a world-class, object-oriented programming language that strips away the complexities of C++. Tools get more sophisticated each day.

"Java and C++ are really good for different things," says Wayne Milsted, a three-year veteran of Java programming and a senior technical architect at Beaverton, Ore.-based Claremont Technology Group. "Java is very well-suited for programming a lot of little things that work well together. C++ tends to resemble a monolithic block of code. Java scales better and responds better to change. Although the language itself is easy to learn, people who really understand the design issues are rare."

Now is the time to gain any experience you can, Java developers say. Although on-the-job experience is best, Tom Stamm, a 1997 graduate in computer science from the University of Maryland, found that even a three-mooth college project helped him land his current job as senior consultant at Booz Allen & Hamilton in McLean, Va. Because Java is widespread io only a few companies, many programmers educate themselves rather than rely on their companies to train them.

"The online resources are simply incredible," says Ed Becker, ao independent contractor and CEO of BioSoft, Inc., a Deltona, Fla.-based firm that specializes in medical software. "Entire documentation, reference sites, tutorials and even online video instruction is available for free. So far, I have spent nothing on my Java education beyond a few books. Of course, I have a strong programming background already, and the language is remarkably similar to C, so my migration was halfway under way."

What's the payoff of becoming Java-proficieot? A recent *Computerworld* survey on salaries found that Java experts command up to a 25% pay differential in the market. But that differential is likely to be a short-term blip in response to a labor shortage that soon will abate. Colleges use Java to teach students programming, which means that Java skills are expected to be more common in the next few years, as newly graduated computer scientists join the workforce.

Java experts say they're less interested in the short-term windfall than the long-term career benefits Java might provide.

"The most important thing a Java developer must do, just as any other developer, is stay abreast of technology and really understand it," Becker says. "Although Java looks a lot like C++, the way of thinking and the object orientation really make it stand apart." □

Tristram is a freelance writer in San Jose, Calif.

IT managers are hiring and training for Java at a slower pace than had been projected for this year. But IT professionals should be ready when demand comes to a boil

Companies with skill in 1997	18%
Companies training for skill in 1998	24%
Companies hiring for skill in 1998	13%

Source: Computerworld's 1997 Annual Skills Survey

CAREER Watch

Staff levels critical

Health care organizations — especially nonprofit hospitals — are facing critical IT staff shortages, particularly in network management, database management, systems administration and systems integration. With IT salaries 15% below national averages, it's no wonder. The possible cure: Some health care companies do quarterly salary reviews to adjust compensation levels.

Hiring woes: No relief

According to Manpower, Inc.'s latest quarterly Employment Outlook Survey, hiring in all industries this quarter is expected to remain high. That's obviously not good news for IT recruiters who hope to retrain available non-IT workers. Of 15,600 companies participating in the study, 32% plan to increase their workforce this quarter; 59% plan to maintain staffing levels; and only 5% will decrease employment.

Wanted: Top brass

It wasn't long ago that unemployed IT executives had a tough time finding work. Not anymore. The demand for senior-level executives across the board increased by more than 31% in the first quarter this year compared with the same period last year, according to the Exec-U-NetExecutive Market Demand Index.

The biggest demand was for those in the highest salary brackets, with a 62% increase in positions paying $200,000 or more.

Control your interview

Most IT managers are poor at interviewing IT job candidates. That puts more pressure on the job seeker to make sure the interview goes well. Lina Falard offers advice on how to interview with confidence and impact.

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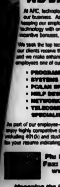

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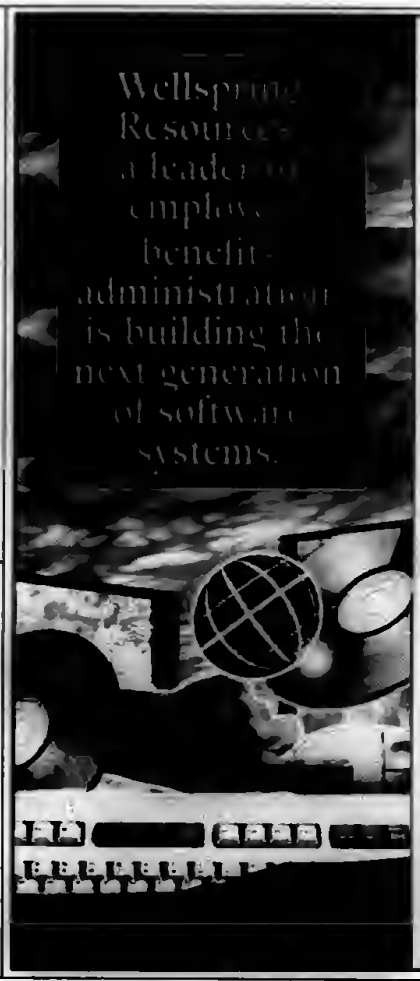

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4 year degree in Computer Science or related field, have a testing background and a min of 2+yrs test experience. Knowledge of SQL and relational databases, experience with HP, UNIX, Powerbuilder, Sybase, Direct Talk, client/server, GUI and IVR technology.

Configuration Management Specialist

Implement Software Configuration Management policies and procedures. Administer CM practices using PVCS in client server environment (UNIX, NT, Sybase, etc). You will identify, document and enforce the CM policies and procedures, design, implement and maintain the CM system, create, maintain and control access to the software libraries.

Degree in Computer Science or related technical degree, a minimum of 3 years actual hands-on CM experience, UNIX and PVCS experience required.

Senior Configuration Management Specialist

Develop, implement and maintain a Software Configuration Management system. Administer CM practices using PVCS in client server environment (UNIX, NT, Sybase, etc.).
You will oversee the CM system, perform builds, update runtime environments, identify and implement tools that lead to efficient CM builds, work with development groups, provide end-user training and documentation, provide data, reports and statistical information, implement and administer PVCS Version Manager and Tracker.

Must have experience at a senior level as a CM Administrator, a BS degree in Computer Science or related technical degree, a minimum of 3 years of actual hands-on CM experience, UNIX and PVCS experience required.

Client Server Database Manager

Manage a team of senior database engineers who are responsible for the company's application database technologies and environments. Work with application development and Unix systems teams to create capacity plan, work with Disaster Recovery Manager, provide 24 hr, 7 days a week emergency database support. Work with Systems Architecture team on new database platforms and technologies.

5 years managing distributed database technologies, overall 10 years relational database experience (as DBA, Logical Modeler, Database Manager, etc); experience with large (20+gig) database centric applications, knowledge of 3-tier systems architecture as well as the understanding of Sybase and HP-UNIX operating systems.

Sr. Developers

Analyze, design, develop and unit test based on requirements defined in technical specifications. Participate in code walk-throughs, the cross-training of peers, and adhere to Wellspring SQL and related development standards.

Must have a BS in CS or MIS or equivalent experience, 5+yrs SQL exp, 3+yrs Sybase stored procedure or Powerbuilder application development, 5+yrs industry exp. DBA background in an RDBMS is a plus.

Developers

Analyze, design, develop and unit test based on requirements defined in technical specifications. You will adhere to Wellspring SQL and related development standards.

Must have a BS in CS or MIS or equivalent experience, 1-3+yrs SQL stored procedure programming or Powerbuilder applications (Sybase pref'd), 3-7+yrs industry experience.

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Develop system design and detailed technical specifications including pseudo code (such as GUI screens, voice response, event processing, data loads, and/or documents/report preparation) from business requirements and functional specifications. Serve as resource to developers as they implement specifications. Participate in the planning and execution of quality assurance testing.

A BS in CS or MIS, 5+yrs exp in systems analysis, 5+yrs domain exp, 2+yrs of SQL and DBMS design or development, 2+yrs of user interface design. Strong analytical skills and strong written and verbal communication skills are a must. Experience writing technical specifications is highly desirable as well as exp in Word, Visio, event processing applications, data conversion, and data loads.

Programmer Analysts

Design, develop, and unit test based on requirements defined in technical specifications.

Must have a BS in CS or MIS or equivalent experience, 1-3 yrs SQL stored procedure programming (Sybase preferable), 1-7 years industry experience, UNIX and Powerbuilder experience preferred.

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The successful candidate will possess: ten years work experience, in full life cycle project and team management including multi-functional, multi-month, sizable projects. BS in Computer Science/Math, MBA preferred. Technical environment includes multiple AS/400 and NT Servers, WAN, Oracle and Microsoft relational data bases, Data Warehouse, SQL, E-Commerce, Client/Server and Oracle development tools. Experience in catalog/retail service or other high volume and distributed operations preferred. Position is at our Vermont corporate location. Orvis offers competitive salary and benefits. For confidential consideration please send resume to:

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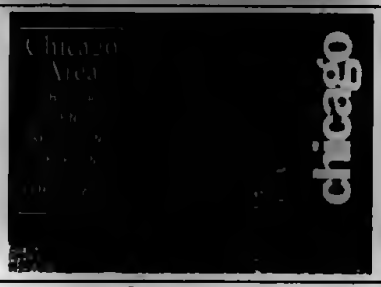

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West: Regional Manager/Christopher Glenn, 500 Airport Blvd Ste. 100, Burlingame, CA 94010 (949) 250-0164, Account Executives/Kate Angelone, Chris Connery, (800) 343-6474

MARKETING: *Marketing Director*/Chris McGarry, *Marketing Manager*/Stuart C. Dale, *Art Director*/Gary Sutin, *Copywriter*/Steve Stamates, *Marketing Specialist*/Emily Dinneen **CIRCULATION:** *Vice President Circulation*/Maureen Burke **PRODUCTION:** *Production Director*/Christopher P. Cuoco, *Production Manager*/Beverly Wolff **DISTRIBUTION:** *Distribution Manager*/Bob Wescott, *Traffic Manager*/Pat Walker **RESEARCH:** *IT Market Analyst*/David Daoud, *Research Analyst*/Matt Duffy, *Research Analyst*/Candace O'Keefe, *Associate Research Analyst*/Jim Karaletas

COMPUTERWORLD

President/CEO
Jim Martin

Chief Operating Officer
Bob Ainsworth

Vice President/Marketing
Cynthia L. Ahart
(508) 820-8272

Vice President of IS
Richard Broughton
(508) 620-7700

Vice President/Recruitment Advertising
John Corrigan
(508) 820-8275

Vice President/Editor
Paul Gillin
(508) 620-7724

Vice President/Information Management Group
Scott R. Kleinman
(650) 524-7060

Vice President/General Manager New Media & Information Mgmt.
Richard Mikita
(508) 628-4766

Senior Vice President/Consumer Marketing
Gail Odeneal
(508) 820-8234

Vice President/Human Resources
Susan C. Perry
(508) 820-8160

Senior Vice President/Finance
Matthew C. Smith
(508) 820-8102

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NEWS

The Week in Stocks

Gainers / Losers

PERCENT

Gainers		Losers	
PSINet (H)	47.7	Computer Associates (H)	-33.0
Secure Computing Corp.	31.5	[illegible] Inc. (L)	-30.6
Xircom (H)	16.0	Walker Interactive Systems	-22.3
Data Race Inc.	15.3	Silicon Graphics	-22.0
[illegible] Ltd	12.8	Storage Computer Corp. (L)	-21.9
General Signal Networks	12.1	Gateway 2000 Inc. (H)	-21.6
Radiant Systems Inc	7.8	Documentum, Inc.	-20.6
Pegasus Systems	7.2	Open Market Inc.	-20.2

DOLLAR

Gainers		Losers	
PSINet (H)	6.38	Computer Associates (H)	-19.38
IBM (H)	4.63	Gateway 2000 Inc. (H)	-14.50
General Signal Networks	4.56	Dell Computer Corp. (H)	-11.81
BellSouth Corp. (H)	4.38	Documentum, Inc.	-10.31
Amazon.com (H)	3.94	Storage Technology (H)	-9.00
Northern Telecom Ltd.	3.13	PeopleSoft	-8.50
Secure Computing Corp.	2.94	Sapient Corp.	-6.75
Lucent Tech. (H)	2.75	Concentric Network Corp.	-6.50

INDUSTRY ALMANAC

Web-auction stocks on rise

Internet stocks are changing the rules of traditional stock valuation methods, as investors show a willingness to overlook nonexistent or even negative earnings. Online auction stocks have stepped up as the newest entry into this superheated Internet stock rally.

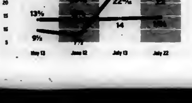
Companies such as Egghead.com, Inc. (Nasdaq:EGGDS) and Onsale, Inc. (Nasdaq:ONSL) have capitalized on the built-in efficiencies World Wide Web-based businesses provide, namely, maximum reach and lower cost of distribution. But it isn't just more efficient business models that are fueling skyrocketing share prices of Internet stocks. Investors also are shifting the way they evaluate a new issue's potential future earnings. Instead of the traditional price-to-earnings ratios, for example, new investors are accepting revenue estimates as legitimate predictors of future profitability, explains Steve Harmon, an analyst at NationsBanc Montgomery Securities, Inc. He says investors should watch for rising revenue-per-employee as a solid indicator of a healthy business.

On July 13, Egghead.com hit a 52-week high of 26 1/8, triple its July opening price. It also expanded into the Web-auction business with its Web site, Surplusauction.com, which sells consumer products. Recent revenue figures for the site helped make Egghead.com one of Nasdaq's most active shares for the week ended July 17. By the end of its first full fiscal quarter in September, Egghead.com's revenue for its auction site was reported at $2.7 million. Recent revenue figures for the quarter ended June 27 hit $13.7 million.

Onsale, which sells a mix of consumer products, also benefited from increasing interest in these stocks. On July 15, its share price saw a one-day increase of 19% from the previous day's close. Insurance Auto Auctions, Inc. (Nasdaq:IAA) also has been on an upward trend since April, with a closing price of $14 on July 20. — Joseph Rigoli

'NET GAINS

Online auction stocks have shown some recent gains



Exch	52 Week	Range		July 24 2 PM	Wk Net Change	Wk Pct Change
[illegible]						
COMS	38.94	22.94	3 COM Corp	34.94	1.81	0.5
AIT	52.00	30.13	AMERITECH Corp (H)	51.81	1.18	1.1
ASND	35.75	22.00	Ascend Communications	52.56	1.08	2.0
T	48.50	36.09	AT & T	59.19	0.00	0.0
BNYN	13.38	1.75	Banyan Systems Inc	7.50	1.63	18.1
BAY	41.38	21.38	Bay Networks Inc	34.11	1.75	5.4
BEL	51.00	35.13	Bell Atlantic Corp	45.50	0.50	0.8
BLS	70.00	49.31	BellSouth Corp (H)	69.75	4.00	6.1
BRKT	22.75	9.38	Brooktrout Technology	16.69	1.13	7.3
CS	38.50	11.44	Cabletron Systems	12.94	0.00	-0.5
CGRM	21.88	6.38	Centigram Communications	11.00	0.50	-4.3
CSCO	104.00	45.50	Cisco Systems Inc (H)	97.00	1.94	1.5
CMNT	6.38	5.31	Computer Network Tech	6.38	0.13	2.0
CNCX	41.00	7.38	Concentric Network Corp	30.11	6.50	17.7
DIGI	39.94	16.50	DSC Communications	11.11	2.00	5.7
FORE	38.00	13.13	FORE Systems Inc (H)	24.38	0.94	3.1
GDC	8.38	3.75	General Datacomm Inds	4.25	0.56	11.7
GSX	51.13	35.00	General Signal Networks	42.11	4.56	12.1
GTE	63.38	40.50	GTE Corp	57.38	1.56	3.9
LU	108.38	38.70	Lucent Tech (H)	56.44	2.75	2.9
MADGF	3.19	3.25	Madge Networks NV	4.25	0.31	-6.8
MCIC	70.63	27.11	MCI Communications Corp (H)	90.00	-0.81	1.2
NETM	3.25	2.09	NetManage Inc	2.56	-0.13	-4.7
NTRX	3.50	0.63	Netrix Corp	2.75	0.75	-8.3
NCDI	11.75	5.88	Network Computing Devices	7.38	0.13	1.0
NWK	32.38	11.63	Network Equipment Tech	12.69	1.37	9.4
NN	69.38	18.38	Newbridge Networks Corp	21.75	1.50	-6.7
NT	69.25	39.00	Northern Telecom Ltd	18.63	1.13	5.6
NOVL	13.63	4.81	Novell Inc	12.25	-0.94	7.1
ODSI	14.50	5.19	Optical Data Systems Inc	6.00	1.13	15.8
PCTL	13.50	3.63	Picturetel Corp	8.81	1.00	-17.5
OPEN	1.18	0.97	Proxicom Inc	1.75	0.00	1.1
RACO	4.13	1.00	Racotek Inc	2.75	0.00	2.3
RADS	29.00	6.18	Radiant Systems Inc	7.83	0.56	7.8
RTL	11.63	2.50	Retix (L)	2.50	0.47	-15.5
SBC	40.56	40.75	SBC Communications	42.38	1.63	8.6
SFA	27.94	14.00	Scientific Atlanta Inc	24.00	2.00	7.7
SHVA	16.44	7.94	Shiva Corp (L)	2.38	-0.40	7.6
FON	75.43	45.25	Sprint Corp	74.11	0.75	1.0
QWST	47.50	14.56	QWest Communications (H)	42.00	0.19	0.4
SMSC	18.13	8.00	Standard Microsystems Corp	8.19	0.50	-6.4
USW	58.00	15.00	U S West Inc (L)	54.00	2.50	5.0
XIRC	25.31	8.63	Xircom (H)	19.50	2.69	16.0
XYLN	33.81	13.38	Xylan Corp	24.38	4.63	15.9
[illegible]						
AAPL	38.13	12.75	Apple Computer Inc	35.00	1.63	4.4
CPQ	39.75	23.13	Compaq Computer Corp	30.58	3.88	11.3
DELL	118.35	35.00	Dell Computer Corp (H)	108.13	11.81	10.1
GTW	60.75	25.09	Gateway 2000 Inc (H)	52.75	14.50	-21.6
HWP	42.08	55.38	Hewlett Packard Co. (L)	57.00	3.25	5.4
MUEI	21.00	8.44	Micron Electronics Inc	13.65	1.50	9.2
NIPNY	72.75	41.38	NEC America	42.60	-0.38	-0.8
SGI	50.59	10.38	Silicon Graphics	11.31	3.19	-22.0
SUNW	53.81	30.38	Sun Microsystems Inc	48.31	-4.44	-8.4
[illegible]						
DGN	37.94	18.11	Data General Corp	13.31	2.00	13.1
IBM	131.00	89.63	IBM (H)	124.44	4.63	3.9
MDCD	6.63	3.13	Meridian Data Inc	3.75	-0.47	-11.1
NCR	38.50	25.63	NCR Corp	36.44	0.00	0.2
PRCM	18.65	5.94	ProCom Technology Inc	5.94	0.56	8.7
SQNT	31.25	10.37	Sequent Computer Sys. (L)	10.34	-1.60	14.1
TEXM	6.00	2.94	Texas Micro Inc	3.63	-0.13	-3.3
SRA	60.75	21.94	Stratus Computer Inc	35.69	-2.75	31.2
UIS	18.00	8.75	Unisys Corp (H)	18.00	2.38	7.8
[illegible]						
ADBE	53.13	38.50	Adobe Systems Inc	37.75	1.38	4.9
AMSWA	15.63	6.13	American Software Inc (L)	8.18	0.00	1.0
APLX	12.38	3.50	Applix Inc	3.50	0.00	1.7
ARSW	30.25	27.38	Arbor Software	30.00	5.00	13.2
ARDT	15.88	0.94	Ardent Software	14.44	-0.25	1.7
ARSC	30.38	19.25	Baan Corp	26.63	0.00	0.0
ADSK	51.13	30.94	Autodesk Inc. (L)	31.94	-0.19	-0.6
BMCS	38.60	27.38	BMC Software Inc (H)	94.38	0.00	-0.1
BOOL	00.00	16.63	Boole and Babbage	25.00	-1.44	5.7
BOBJY	70.00	0.83	Business Objects	17.50	-0.50	-2.8
CAYN	1.38	0.38	Cayenne Software Inc	0.75	-0.06	7.7
CNTR	3.11	0.88	Century Software	1.00	-0.09	5.4
CHKPF	50.50	22.00	Checkpoint Software	24.90	2.25	-8.4
COGNF	36.75	17.94	Cognos Inc	24.00	1.63	-6.3
CA	61.34	37.13	Computer Associates (H)	39.50	19.38	34.0
CPWR	60.31	40.75	Compuware Corp (H)	56.63	2.63	4.9
CSRE	31.60	4.03	Comshare Inc	5.75	1.33	18.6
COSFF	6.63	1.40	Corel Corp	1.00	-0.08	15.8
DWTI	5.50	2.13	Dataware Technologies Inc	3.50	0.44	11.1
DCTM	58.63	28.00	Documentum Inc	38.81	10.17	-20.6
FILE	32.88	7.56	FileNet Corp	28.00	3.09	12.8
FRTE	16.56	3.60	Forte Software	5.75	-0.44	2.1
FTPS	4.63	1.51	FTP Software Inc	3.31	-0.16	30.6
GPSI	00.00	20.00	Great Plains Software, Inc	35.00	1.00	2.8
HUMCF	54.25	23.75	Hummingbird Comm. Ltd (L)	25.75	2.00	7.8
HYSW	40.63	25.50	Hyperion Software Corp	31.13	-4.75	13.2
IRIC	30.00	12.50	Information Resources	17.81	-0.75	-4.8
IFMX	12.94	4.00	Informix Corp	7.00	-0.18	3.1
INPR	12.19	6.50	Inprise Corp	7.03	-0.72	9.3
INGR	34.19	0.63	Intergraph Corp (L)	4.38	-0.16	2.2
LEAF	4.00	1.22	Interleaf Inc	1.50	0.03	2.0
ISLI	21.25	11.25	Intersolv Inc	17.63	1.41	7.4
INTU	67.94	83.63	Intuit Inc (H)	60.00	-4.33	-6.4
JDEC	46.25	28.88	J D Edwards Co	41.00	3.11	-7.1
TLC	32.81	10.38	Learning Co (The)	29.75	-2.00	-6.5
MANU	66.38	09.50	Manugistics Group, Inc	25.88	2.94	-9.7
MAPS	14.75	8.38	Mapinfo Corp	12.13	0.63	5.1
MATH	4.63	2.88	MathSoft	3.22	-0.59	15.6
MENT	13.11	8.11	Mentor Graphics	9.81	-0.25	2.2
MIFCY	00.50	00.13	Micro Focus	58.00	-3.37	-3.5
MGXI	14.88	5.75	Micrografx Inc	12.63	-0.13	1.0
MSFT	130.63	00.00	Microsoft Corp (H)	136.19	4.56	-3.8
OBJS	5.25	0.44	ObjectShare, Inc	2.31	-0.06	-2.6
OMTL	15.00	6.13	Ontrack Ltd	3.50	0.63	12.8
ORCL	42.11	17.75	Oracle Corp	34.94	2.43	4.1
PMTC	38.13	17.00	Parametric Technology (L)	13.75	3.50	9.8
PSFT	67.94	00.00	PeopleSoft	40.50	-8.50	17.3
PTEC	18.38	8.88	Phoenix Technologies	11.50	-0.50	-4.1
PSQL	27.00	7.63	Platinum Software (H)	24.25	-2.13	-8.1
PLAT	34.75	34.00	Platinum Technology	31.00	-0.06	-0.2
PRGS	00.13	30.75	Progress Software Corp	24.33	-2.25	-6.5
RNBO	40.13	13.13	Rainbow Technologies Inc (H)	14.38	1.00	6.9
REDB	11.63	2.56	Red Brick Systems Inc (L)	2.50	-0.47	15.5
ROSS	5.00	2.00	Ross Systems Inc	4.41	-0.13	2.8
SCOC	7.25	2.34	SCO Inc	3.94	0.00	0.0
SDTI	40.25	15.06	Security Dynamics Tech	15.00	-0.80	-4.4
STW	37.00	25.00	Sterling Software Inc	29.00	-2.50	-7.8

Exch	52 Week	Range		July 24 2 PM	Wk Net Change	Wk Pct Change
SDRC	30.00	12.56	Struct Dynamics Research (L)	11.94	1.00	7.1
SYBS	23.61	6.13	Sybase Inc	8.94	1.00	10.1
SYMC	32.94	17.09	Symantec Corp	34.75	0.75	2.7
SNPS	47.13	28.11	Synopsys	38.13	4.60	10.9
SSAX	17.63	5.94	System Software Assoc (L)	8.00	0.47	7.2
SYST	13.38	1.00	Systemsoft Corp	1.28	0.00	0.0
BAANF	35.50	28.38	The Baan Co	38.56	-4.19	-9.8
TRUV	5.18	0.75	Truevision Corp	1.34	-0.03	-2.3
VIAS	96.75	12.38	Viasoft Inc	18.31	2.08	13.4
VSIO	50.08	34.50	Visio Corp	40.13	-6.00	13.0
WALK	00.44	11.75	Walker Interactive Systems	11.75	3.38	22.3
WALL	21.88	30.11	Wall Data Inc	13.50	1.13	7.7
WANG	32.25	18.63	Wang Laboratories Inc	23.38	1.13	-4.6
[illegible]						
AMZN	147.00	11.81	Amazon.com (H)	121.50	3.94	3.3
AOL	140.38	31.63	America On Line (H)	118.94	-6.25	-4.9
ATHM	37.25	18.00	At Home Corp	47.00	-2.10	-4.4
EDFY	22.13	8.00	Edify Corp	8.38	1.63	16.3
XCIT	35.50	7.13	Excite, Inc	43.88	1.00	-2.4
SEEK	45.00	4.00	Infoseek Corp	25.25	3.63	11.0
LCOS	107.25	16.25	Lycos Inc	67.25	-2.25	3.2
NSCP	44.61	14.89	Netscape Comm. Corp	31.89	0.94	2.9
NSOL	58.00	11.75	Network Solutions Inc	35.00	5.50	13.6
OMKT	29.11	2.88	Open Market Inc	16.25	-4.13	-20.2
PEGS	31.00	12.38	Pegasus Systems	25.72	1.72	7.2
PSIX	20.88	4.25	PSINet (H)	19.75	6.38	47.7
QDEK	3.00	0.63	Quarterdeck Corp (L)	0.00	0.00	0.0
SCUR	15.25	5.50	Secure Computing Corp	12.25	2.94	31.5
SPYG	15.38	4.06	Spyglass Inc	12.50	-0.31	-2.5
YHOO	207.50	10.81	Yahoo! Inc	163.50	3.16	-1.7
[illegible]						
AMD	42.75	15.19	Advanced Micro Devices	16.19	-0.38	-2.3
ADI	60.63	22.00	Analog Devices Inc	22.38	-4.63	17.1
CRUS	17.75	2.88	Cirrus Logic	9.38	1.28	-12.1
CY	18.94	7.38	Cypress Semiconductor Corp	7.50	-0.34	11.0
INTC	102.00	65.94	Intel Corp	83.19	0.13	0.2
LSCC	74.50	25.94	Lattice Semiconductor	29.94	3.31	15.2
LSI	35.81	16.63	LSI Logic Corp	20.56	-2.31	50.1
MCRL	48.38	21.38	Micrel Semiconductor Inc	31.72	-4.41	12.2
MU	60.00	10.00	Micron Technology	28.63	-2.50	-8.5
MOT	84.94	48.56	Motorola Inc	50.81	2.38	5.4
NSM	42.00	12.31	National Semiconductor	11.00	1.00	7.1
RMBS	18.75	33.50	Rambus Inc	50.00	5.25	-8.6
TXN	71.25	39.63	Texas Instruments	57.60	3.00	6.3
VLSI	30.69	14.56	VLSI Technology	17.13	1.75	6.5
XLNX	57.11	28.50	Xilinx	38.00	2.00	5.4
[illegible]						
ADPT	34.25	11.00	Adaptec Inc (L)	11.00	-2.60	-19.0
APCC	34.00	22.13	American Power Conversion	28.88	3.00	9.6
ANDA	2.81	1.00	Andataco Inc	1.25	-0.11	9.1
CREAF	00.00	11.00	Creative Technology Ltd	11.00	-0.00	-7.1
RACE	35.50	0.50	Data Race Inc	2.13	0.28	15.3
DTM	13.00	1.00	Dataram Corp	12.44	2.08	8.1
EMC	94.10	23.50	EMC Corp (H)	51.00	-0.13	-0.2
EMLX	10.75	5.31	Emulex Corp	0.75	-0.94	-6.0
ESCC	35.00	21.60	Evans and Sutherland	25.75	-0.25	1.0
EXBT	12.75	5.63	Exabyte	6.38	-0.38	5.5
IISFD	4.50	1.00	Intelligent Info Systems (L)	1.00	-0.13	10.3
IOM	16.75	4.75	Iomega Corp	3.59	-0.34	8.7
KMAG	23.25	3.63	Komag Inc (L)	4.03	1.00	0.06
MTSI	34.00	13.00	Micro Touch Systems Inc	17.00	-0.38	-2.1
MTIC	17.69	4.81	MTI Technology Corp	7.75	1.00	11.4
AQM	75.00	2.25	QMS Inc	3.75	0.56	-18.0
QNTM	43.25	17.75	Quantum Corp	19.13	-2.94	-13.3
RDUS	6.13	2.25	Radius Inc	3.38	-0.13	5.0
SEG	50.50	17.75	Seagate Technology	23.63	1.63	6.4
SOS	14.00	3.13	Storage Computer Corp (L)	3.13	-0.88	-21.9
STK	51.13	29.25	Storage Technology (H)	40.13	-9.00	18.2
TEK	40.19	29.88	Tektronix Inc (L)	29.88	-4.94	-14.2
WDC	54.75	10.25	Western Digital Corp	11.50	-0.94	7.5
XRX	116.50	94.19	Xerox Corp (H)	109.06	3.10	2.8
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AMSY	33.50	17.63	American Mgmt Systems (H)	30.25	-2.25	-6.5
ANLY	30.50	22.69	Analysts Intl	28.20	3.50	11.9
AUD	75.50	26.56	Auto Data Processing	50.94	2.88	3.9
CATP	50.38	31.00	Cambridge Tech Partners	40.38	2.88	7.7
CEN	64.38	32.13	Ceridian Corp (H)	50.63	3.69	5.9
CDO	23.25	13.44	Comdisco Inc	17.00	-2.19	11.4
CPU	18.00	14.50	CompUSA Inc	19.94	-1.38	-6.5
CHRZ	53.38	25.75	Computer Horizons	36.67	2.88	-7.3
CSC	68.88	33.63	Computer Sciences (H)	61.69	-4.81	-7.2
TSK	49.50	27.00	Computer Task Group	33.75	-2.81	-7.7
EGGS	29.71	4.75	Egghead Discount Software	20.75	-0.25	1.2
EDS	38.00	29.50	Electronic Data Systems Corp	25.81	1.06	-2.9
ICO	34.94	22.63	Inacom Corp	30.56	-2.38	-7.2
KEA	60.34	24.00	Keane Inc	63.50	3.19	5.6
MICA	29.75	10.06	Microage Inc	15.00	-0.81	-5.1
PAYX	40.00	21.69	Paychex	41.75	1.60	3.9
PMS	44.63	25.00	Policy Management Sys.	41.09	-1.81	-4.8
REY	24.00	16.44	Reynolds and Reynolds	17.63	0.75	4.4
SAPE	94.00	23.38	Sapient Corp	48.50	-6.75	-12.2
SCBI	14.75	6.50	SCB Computer Tech. Inc	9.00	-0.38	3.7
SEIC	78.60	27.00	SEI Corp (H)	75.00	2.75	3.8
SMS	89.50	47.50	Shared Medical Systems (H)	79.69	-4.44	5.5
SSPR	24.25	10.75	Software Spectrum Inc	19.75	1.00	4.8
SDS	40.00	22.44	Sungard Data Systems	30.38	1.13	2.9
SYNT	70.88	5.09	Syntel, Inc	27.13	2.63	-8.8
VST	17.25	11.00	VanStar Corp	11.63	0.13	1.1

KEY: (H) = New annual high reached in period (L) = New annual low reached in period

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NEWS

How to contact Computerworld

TELEPHONE/FAX

Main phone number ....(508) 879-0700
All editors unless otherwise noted below
Main fax number ....(508) 875-8931
24-hour news tip line ....(508) 820-8555

E-MAIL

Our Web address is www.computerworld.com. All staff members can be reached via E-mail on the Internet using the form:

firstname_lastname@cw.com

All IDG News Service correspondents can be reached using the form:

firstname_lastname@idg.com.

LETTERS TO THE EDITOR

Letters to the editor are welcome and should be sent to:

letters@cw.com.

Include your address and telephone number.

MAIL ADDRESS

PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701

SUBSCRIPTIONS/BACK ISSUES

Phone ....(800) 552-4431
E-mail ....circulation@cw.com
Back Issues ....(508) 820-8167

REPRINTS/PERMISSIONS

Phone .....Ray Trynovich (717) 560-2001, ext. 24
E-mail ....sales@rmsreprints.com

CONTACTING CW EDITORS

We invite readers to call or write with their comments and ideas. It is best to submit ideas to one of the department editors and the appropriate beat reporter.

Editor Paul Gillin (508) 620-7724
Executive Editor Maryfran Johnson (508) 820-8179

Department Editors/News

News Editor Patricia Keefe (508) 820-8183
Sections Editor Kevin Fogarty (508) 820-8246
Assistant News Editor Michael Goldberg (508) 620-7789
Assistant News Editor Mitch Betts (202) 347-6718
Assistant Sections Editor Anne McCrory (508) 820-8205
Online Editor Johanna Ambrosio (508) 820-8553
Online News Editor Judith H. Bernstein (516) 266-2863
Industry Editor Joe Maglitta (508) 820-8233
West Coast Bureau Chief Galen Gruman (650) 548-5512

National Correspondent

IT services, systems integration, outsourcing Julia King (610) 532-7599

Senior Editors/News

Labor issues, IS careers Barb Cole-Gomolski (760) 728-8858
Security, network operating systems Laura DiDio (508) 820-8182
Network/systems management Patrick Dryden (817) 924-5485
Microsoft NT, systems software Sharon Gaudin (508) 820-8122
IS management, year 2000, financial services Thomas Hoffman (914) 988-9630
E-commerce, Internet issues Sharon Machlis (508) 820-8231
Microsoft, investigative reports Kim S. Nash (773) 871-3035
Java, intranets, extranets Carol Sliwa (508) 628-4731
Client/server software, Unix applications Craig Stedman (508) 820-8120
Midrange hardware, Unix, mainframes Jaikumar Vijayan (508) 820-8220
Internetworking Bob Wallace (508) 820-8214

Senior Writers/News

Computerworld online Stewart Deck (508) 820-8153
E-mail, groupware, document management Roberta Fusaro (508) 620-7776
Mobile computing, help desk Kim Girard (650) 548-5515
PCs, servers, network computers, Windows April Jacobs (508) 820-8121
Computerworld online Patrick Thibodeau (508) 820-8143

Staff Writers/News

Application development David Orenstein (650) 524-7116
New products, multimedia, storage Nancy Dillon (650) 548-5538
Telecommunications, federal government Matt Hamblen (508) 820-8567
Computerworld online Tom Diederich (650) 548-5581

Opinions

Staff Columnist Frank Hayes (503) 252-0100
Columns Editor Steve Ulfelder (508) 620-7745

Department Editors/Features

Managing Allan E. Alter (508) 620-7714
Technology reviews/Review Center James Connolly (508) 820-8144

Senior Editors/Features

Editor at large Gary H. Anthes (202) 347-0134
Features writer Kevin Burden (508) 620-7717
Review Center Cathleen Gagne (508) 620-7729
QuickStudy Stefanie McCann (508) 820-8274
Management Kathleen Melymuka (508) 628-4931
Managing Rick Saia (508) 820-8118
In Depth Steve Ulfelder (508) 620-7745
IT Careers David B. Weldon (508) 820-8166

Research

Laura Hunt, research analyst; Keith Shaw, graphics coordinator; Mari Keefe, online researcher

Copy Desk

Ellen Fanning, managing editor (508) 820-8174; Jamie Eckle, assistant managing editor; David Ramel, senior copy editor; Thomas Gaudet, Pat Hyde, Adam Parez, Bob Rawson, Monica Sambataro, copy editors; Jeremy Selwyn, senior online copy editor

Graphic Design

Tom Monahan, design director (508) 820-8218; Janell Genovese, associate art director/features; Mitchell J. Hayes, associate art director/news; David Waugh, associate art director/online; Nancy Kowal, senior graphic designer; Alice Goldberg-FitzHugh, April O'Connor, graphic designers; Rich Tennant, John Klossner, cartoonists

Administrative Support

Linda Gorgone, office manager (ext. 8176); Connie Brown (ext. 8178); Lorraine Witzell (ext. 8139); Bellina Veras-Monarty (ext. 8172); Chris Flanagan, editorial assistants, (650) 548-5563

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Alan Alper, editor (508) 820-8175; Joyce Chutchian-Ferranti, senior project editor; Amy Malloy, project editor; Kimberlee A. Smith, assistant managing editor and online coordinator; Mary Beth Welch, associate art director

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Laptop makers team to target Wintel

▸ *Vendors lobby for more say, better standards*

By April Jacobs

SOME TOP laptop makers are banding together to send what they hope will be a united message to Microsoft Corp. and Intel Corp. that they want better standards for mobile hardware and software, a better design process and more say, to boot.

The Mobile Advisory Council, with Houston-based Compaq Computer Corp. and Santa Clara, Calif.-based 3Com Corp. at the helm, isn't just looking to make suggestions to the software and chip giants, however. The companies plan to look to one another for ways to set standards among vendors. The council also includes IBM, Toshiba Corp. and Fujitsu PC Corp.

"The intent is to highlight and get early agreement from the members of the council on things specific to mobile, like power management issues and remote communications issues," said Ted Clark, worldwide product marketing manager for laptops at Compaq.

"Mobile design cycles are longer and come second chronologically," Clark said. "This means that mobile standards don't get ratified until well into the design cycle." And that can lead to technological miscues.

Users said they hope the result of the council's formation is an end to nagging issues that have plagued the laptop community.

"Our biggest grief still deals with communications systems." – Don Anthony, Valley Health Systems

Those issues include power management, nonstandard hardware such as batteries, hardware reliability and support costs.

"Our biggest grief still deals specifically with communications systems: We need better reliability with dial-up connections, improved speed and fewer dropped connections," said Don Anthony, a network manager at Valley Health Systems, Inc. in Pittsburgh.

Although 15% of systems within companies are laptops now, that number is expected to climb to 50% of sales within the next year, according to International Data Corp., a market research firm in Framingham, Mass. As laptop use at corporations grows, those issues have become more pressing for IS managers. "There is a lot of demand for laptops, but the cost is much higher than a regular desktop in terms of what you pay for it and in support, so it has to be more cost-effective," Anthony said.

Joe Federer, vice president of information systems at Atlanta health care consultancy HBO & Co., said he too has been feeling the pain the council hopes to address.

"They've probably heard of us customers out here screaming in the field," Federer said. His company has 3,500 notebooks — about half of its PCs. Federer said he has suspected that Windows and Intel standards are generally written for desktops, not laptops. □

Staff writer David Orenstein contributed to this report.

Goals for the Mobile Advisory Council:

- Develop consensus on standards and design issues to present to Microsoft and Intel
- Seek user input on mobile computing issues
- Improve development and standards cycles for mobile computers, which now lag behind desktops

Microsoft bolsters support

CONTINUED FROM PAGE 1

behind the launch of a new business division, created by merging Microsoft's existing enterprise and service units. Plans are to add more support personnel before the release of Windows NT 5.0. Called the Sales and Support Unit, the division will be headed by Vice President Jeff Raikes, formerly group vice president of sales and marketing.

Moreover, newly appointed president Steve Ballmer said, "Customer focus is as much a part of our culture as writing code. We want to build on that . . . by listening more, reaching out more and offering to help more." Ballmer and Raikes said improving customer relations is a key goal in their new jobs and for the fiscal year.

"Success in the enterprise depends on how well we do from a service and support stance," added Kevin Johnson, vice president of product support services and a key player in the new unit.

And Microsoft needs that key to unlock what still remains the mysteries of the enterprise. Microsoft has evangelized about the enterprise, and while it has frequently claimed that it has raised its flag at the summit, analysts say it still hasn't gotten above the tree line.

Some corporate customers and analysts said poor support and sometimes an even worse support reputation have been part of the problem.

"There's still an assumption on the part of many enterprise customers who are used to a full-service model with an IBM, Digital Equipment Corp. or Hewlett-Packard Co. that Microsoft is more oriented toward a shrink-wrapped environment and not service," said Ed McDonald, chief architect at Texaco, Inc. in Bellaire, Texas. Noting that Microsoft's service has improved light-years more than its reputation, he nonetheless said, "NT 5.0 has a significant increase in complexity, and support will have to come up and meet that."

Microsoft is hoping to change those perceptions by providing services such as taking care of bugs on-site, having enough support personnel to take service calls and fostering field-test teams in major companies.

Johnson said that while the company has invested heavily in customer support during the past several years, he wants to raise the support for enterprise customers to the level Microsoft now offers to partner vendors.

At Microsoft's annual financial analyst meeting last week in Redmond, Wash., Ballmer told analysts that investments in support were intended to make "every customer's experience with Microsoft a delightful one."

The company plans to do the following:

- Increase technical support spending by $200 million.
- Increase the number of senior information technology professionals it places within customer companies to do IT architecture and planning.
- Launch a worldwide resource program for IT professionals this summer.
- Conduct a survey of Microsoft customers and partners focused on service and support.

Those efforts are targeted at customers such as Seelinger, who said support for NT 5.0 is so important that it will be a key factor in his decision to buy the upgrade.

"We don't use support too often, but when we do, it's because it's our last resort," Seelinger said. "There's a major difference in the architecture, security and domains. Support . . . is a factor in our decision [to buy]." □

ENTERPRISING NUMBERS

Microsoft's commitment to corporate accounts

Enterprise customers in Premier Support program	About 2,000
Microsoft employees dedicated to the enterprise	5,650
Microsoft in-house consultants	1,800
Enterprise technical support personnel	3,200
Authorized support centers	79

Source: Microsoft Corp., Redmond, Wash.

Ballmer's move up lets Gates take strategic view

Microsoft last week said it is entering a new phase, one that will focus founder Bill Gates' energy on future product development and strategy while also funneling significant dollars into improving customer support and feedback mechanisms.

In a memo to Microsoft employees posted on the company World Wide Web site, Gates cited several "critical product goals that require breakthrough work."

He said Microsoft "must lead" in enabling knowledge management, extend its work to intelligent phones and TVs and integrate new input techniques such as speech, vision and handwriting with an eye toward tablet-size devices. On the Windows front, those goals included beefing up Windows in the areas of ease of use, greater scalability and reliability and ensuring a unified, simplified and manageable architecture.

To free up Gates, who has led a three-person office of the president since 1992, Steve Ballmer, the company's top sales executive and longtime Gates partner, was promoted to president last week. Gates remains chairman and CEO.

The move was designed to "broaden the leadership" of the company and enable Ballmer to focus on "delighting" customers.

Ballmer will spend less time on sales calls to large user companies while he focuses more on daily operations at Microsoft, he said.

Going forward, chief information officers at user companies will likely hear instead from Jeff Raikes, who replaced Ballmer as head of sales and support. Raikes has worked in various product and sales groups at Microsoft since 1981.

Gates said his decision to step back from day-to-day business management at this point in Microsoft's 23-year history wasn't related to ongoing struggles with the U.S. Department of Justice. "That was never a measurable percentage" of his time, he said.

— Kim S. Nash

New antitrust charges for Microsoft

▸ *RealNetworks alleges blocking tactics, Ellison claims Apple pressured*

By David Orenstein

APPLE COMPUTER, INC. and RealNetworks, Inc. opened up a new, multimedia front in Microsoft Corp.'s expanding conflict with the federal government and competing software companies when they sharply criticized Microsoft on Capitol Hill last week.

RealNetworks CEO and founder Rob Glaser told the U.S. Senate Judiciary Committee that Microsoft's new Windows Media Player in some cases disables the operation of RealPlayer software. Meanwhile, Larry Ellison, chairman of Oracle Corp. and a board member of Cupertino, Calif.-based Apple, fanned reports that Microsoft has pressured Apple to back off its strong position in Windows video playback.

"Let me be very clear: As a matter of principle, as a matter of public policy and as a matter of consumer protection, what Microsoft is doing is wrong and must be stopped," Glaser said.

Bruce Jacobsen, RealNetworks' president and chief operating officer, told *Computerworld* the conflict occurs for about 3% to 4% of the 27 million users of his Seattle-based company's software. The versions that are affected are the beta of the new, free RealPlayer G2 and the older versions of the $30 RealPlayer Plus. The new Version 5.0 is unaffected. G2 was downloaded by more than 700,000 users in its first week of availability. About 600,000 users own RealPlayer Plus, Jacobsen said.

"We're trying to nip this problem in the bud," Jacobsen said. Glaser said that, so far, Microsoft has addressed RealNetworks' complaints only to a small extent.

A Microsoft spokesman denied the charges and asserted that Microsoft's new media player doesn't disable RealPlayer. Glaser's demonstration of the problem was conducted on beta software, Microsoft said in a written statement. "We remain hopeful that RealNetworks will work with Microsoft to resolve any outstanding issues with their beta software," the statement said.

Ellison, meanwhile, said in his testimony that "Bill [Gates] would like Apple to stay out of the desktop multimedia business." Microsoft has developed several alternatives to Apple's QuickTime software, but QuickTime remains the top Windows media playback software, analysts said, and was recently endorsed as a playback standard by the Motion Pictures Expert Group for the forthcoming MPEG 4 video compression standard.

QUICKTIME'S DOMINANCE

Apple's QuickTime multimedia playback software has become a de facto standard adjunct to Windows

- **It's installed on 23.9 million PCs nationwide, or 67.6% of the PCs in U.S. homes.**
- **In March, 4.5 million people used QuickTime, out of 70 million total PC users.**
- **QuickTime is the most widely deployed non-Microsoft application on PCs.**

Source: Media Metrix, New York, Apple Computer, Inc., Cupertino, Calif.

Apple spokeswoman Katie Cotton would not confirm or deny that Microsoft has pressured Apple. Although "Apple enjoys a partnership with Microsoft . . . multimedia is one area where Microsoft and Apple have some disagreements. But we're trying to work together in a professional way to resolve them," she said.

Microsoft owns 10% of RealNetworks and bought $150 million worth of Apple stock last year to show support for its troubled competitor. □

Staff writer Matt Hamblen and West Coast bureau chief Galen Gruman contributed to this story.

Microsoft rivals unload at hearing

By Matt Hamblen
WASHINGTON

COMPETITORS OF Microsoft Corp. lined up last week at another U.S. Senate hearing to discredit the software company's business practices. They predicted Microsoft would dominate the server, groupware, E-mail and multimedia markets if left unchecked.

The hearing last week before the Senate Judiciary Committee went beyond the Internet browser wars discussed in a March hearing and focused on just about all other software Microsoft makes.

RealNetworks, Inc. CEO Rob Glaser raised new allegations at the hearings: that Microsoft was trying to monopolize the multimedia playback market (see story above).

Oracle Chairman Larry Ellison (left) testified at a Senate hearing chaired by Sen. Orrin Hatch (second from right)

Sybase, Inc. Chairman Mitchell E. Kertzman accused Microsoft of intimidation when Sybase introduced its Jaguar CTS transaction software last year. He said Microsoft's David Vaskevitch said that Jaguar would compete with Microsoft Transaction Server and that Microsoft "did not think that was a good idea."

Later, Microsoft bundled Microsoft Transaction Server with Windows for less than $100, after Microsoft had told Kertzman the introductory price would be $2,000, Kertzman said.

Lotus Development Corp. CEO Jeffrey Papows said Microsoft is hurting Lotus' Notes E-mail client and Domino messaging server by bundling the Microsoft Outlook Express E-mail client with its free Internet Explorer browser and by bundling Microsoft BackOffice, a group of server software products, with Windows NT Server.

Electronic TV Host Vice President Michael Jeffress said Microsoft had competed "unfairly" in providing its own electronic TV guide, WebTV for Windows, to beat out its Electronic TV Host. WebTV for Windows is bundled with Windows 98, giving it immediate access that will prevent consumers from buying Electronic TV Host, he said.

Before Microsoft developed its own guide, Electronic TV Host tried to sell its product to Microsoft, but Microsoft offered "less than half the price we offered," Jeffress said. "Microsoft told us that if we didn't sell at its price, Microsoft would compete directly against us," he said.

Oracle Corp. Chairman Larry Ellison said Microsoft was poised to dominate the server market in the way it has dominated the PC market. He said Microsoft's actions could move Windows NT's share on servers past the current 40% and bring it closer to Microsoft's PC share of about 95%.

Microsoft wasn't represented at the hearing, but company spokesmen disputed all the charges raised by speakers there.

Echoing sentiments of the other executives and of the hearing's chairman, Sen. Orrin Hatch (R-Utah), Papows said, "Microsoft has the effect of foreclosing competition on the merits and extending their acknowledged dominance in operating systems for personal computers into other areas. I believe the committee should give these practices close scrutiny."

But none of the five businessmen who testified called on the government to expand antitrust laws, saying better enforcement of the existing century-old Sherman Antitrust Act was the key to continued competition. □

Senior editor Kim S. Nash contributed to this report.

Notes bundle aids knowledge management

By Roberta Fusaro

LOTUS DEVELOPMENT CORP. and Compaq Computer Corp. last week said they would bundle Notes-based applications onto Windows NT servers to make it easier for users to deploy knowledge management products.

The applications are intended to help users across a company share the information necessary to make business decisions.

The companies will deliver two applications that will run on Lotus Domino and Domino.Doc and Compaq Windows NT-based platforms: KnowledgeWorks, a competitive intelligence product from Glastonbury, Conn.-based Cipher Systems Ltd., and Research Accelerator from Cleveland-based GlobalServe Corp., which targets the research and development units at businesses.

EASIER FOR USERS

Nathaniel Palmer, an analyst at The Delphi Group, Inc. in Boston, said the Lotus/Compaq server and application bundles will make it easier for users to perform Notes-based knowledge management tasks.

Lotus gets another sales channel for Notes at a time when new sales of the groupware product are critical in its race against Microsoft Exchange for E-mail seats, Palmer said.

Palmer said the knowledge management market remains relatively small, with only about $90 million in sales last year. But the research firm's studies indicate that 70% to 80% of companies will consider using some type of knowledge management products in the next year. □

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The Back Page

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CAN COMPUTERS READ OUR EMOTIONS?

Was that a genuine smile your boss gave you today? Or was it fake? Researchers at the University of Pittsburgh have developed the Automated Face Analysis system, which quantifies subtle facial movements. The software distinguishes between forced and spontaneous facial expressions by, for example, reading the intensity of a furrowed brow.

TOP 10

Hottest Cars Online

Honda Accord

Consumer purchase requests submitted to the AutoVantage Web site (*www.autovantage.com*), first half of this year:

1. Honda Accord
2. Toyota Camry
3. Honda Civic
4. Ford Explorer
5. Dodge Caravan
6. Ford F Series Pickup
7. Dodge Durango
8. Ford Expedition
9. Dodge Ram Pickup
10. Toyota Sienna

Source: AutoVantage, Stamford, Conn.

Have 'Amazing Grace' your way

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THE FIFTH WAVE

BY RICH TENNANT

"Well, she's fast on the keyboard and knows how to load the printer, but she just sort of plays with the mouse."

E-Mail Rich Tennant at thewave@tiac.net

Inside Lines

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SAP goes upscale

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Welcome to California

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The Back Page

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Dispatches & Images from the Fringes of the Electronic Frontier

CAN COMPUTERS READ OUR EMOTIONS?

Was that a genuine smile your boss gave you today? Or was it fake? Researchers at the University of Pittsburgh have developed the Automated Face Analysis system, which quantifies subtle facial movements. The software distinguishes between forced and spontaneous facial expressions by, for example, reading the intensity of a furrowed brow.

TOP 10

Hottest Cars Online

Honda Accord

Consumer purchase requests submitted to the AutoVantage Web site (*www.autovantage.com*), first half of this year:

1. Honda Accord
2. Toyota Camry
3. Honda Civic
4. Ford Explorer
5. Dodge Caravan
6. Ford F Series Pickup
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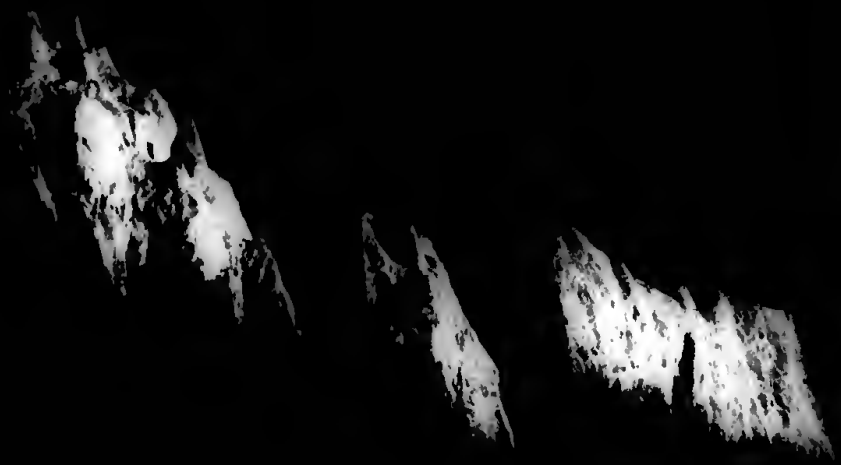

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